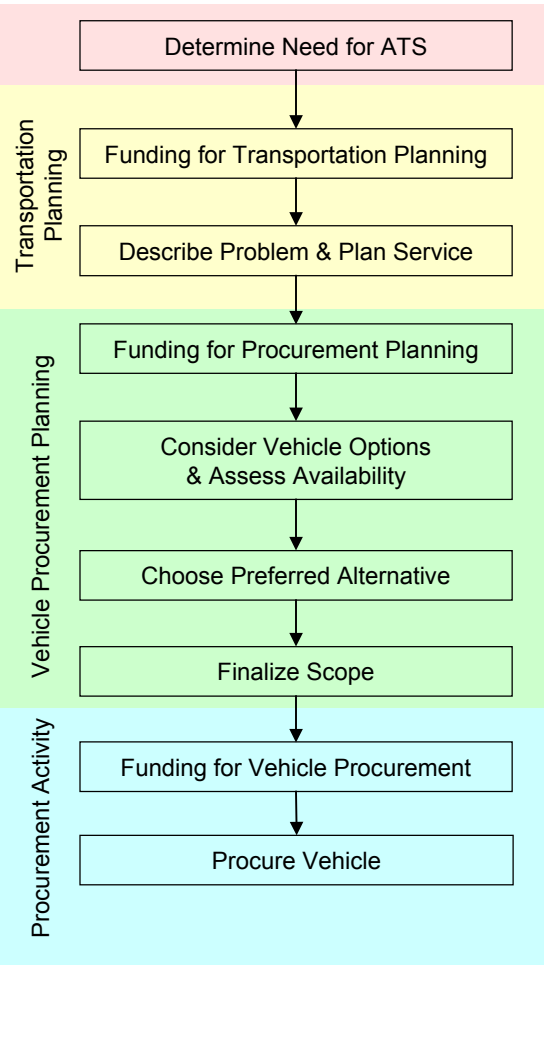
Alternative Transportation System Vehicle Procurement Guide

ATS Vehicle Procurement Process



Introduction to Guide

The purpose of this guide is to lead national parks through the process of choosing and procuring vehicles for Alternative Transportation Systems (ATS). It does so by explaining each of the necessary steps, asking questions that will lead to more thoughtful decision making, and providing links to information and forms that are needed for the procurement process. Although most of the information contained herein can be found elsewhere, this guide is the only resource that brings all the relevant information together in one place.

Organization

This guide is organized into three sections, each corresponding to a major step in the overall planning and procurement process:

Transportation Planning
Is the park at the right stage in its transportation service planning to be using this guide? Before commencing the vehicle procurement process, parks should have already completed most of their transportation planning and should know what level of demand is predicted, what the route(s) will be, and how much funding they can expect. If the park has not yet thought about each of the considerations listed in this section, it may be beneficial to return to transportation planning and hold off on vehicle procurement until a more detailed plan is set out.

Parks that are replacing vehicles on existing services many not need to conduct service planning although the purchase of new vehicles may be an opportune time to evaluate the existing service and make changes if needed.

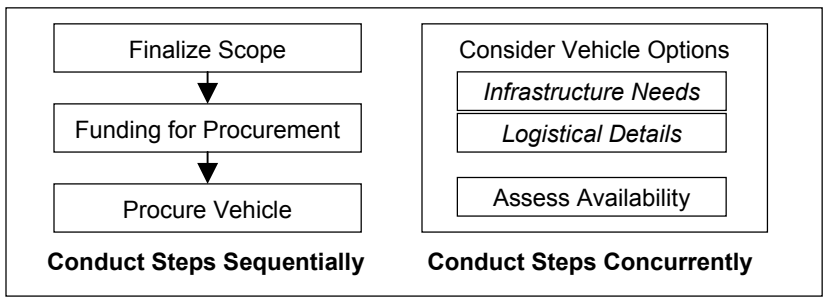
Vehicle Procurement Planning
This section describes the various considerations that parks must think about in terms of determining things like the features of the new vehicle(s), the type of operational arrangement (who will own and operate the vehicle(s)), type of fuel to be used, and what vehicles are available that meet the park's criteria.

Procurement Activity
The last section describes how parks get funding for vehicles and how to place a vehicle order through the standard vendor (the General Services Administration, GSA)—or, alternatively, how to get permission to procure a vehicle through another source.

If a park is replacing vehicles, rather than undergoing the procurement process for the first time, it is still recommended to at least skim the planning sections of this guide as circumstances may have changed since the original procurement.

How to use the guide

The backbone of this guide is a flowchart that depicts how the steps in the vehicle procurement process relate to each other. *Some steps must be completed before the next can begin, and arrows show how to move from each of these steps to the next. Other steps must be conducted concurrently with others, and are depicted in the same box. The following inset provides an example of sequential versus concurrent steps.* The master flowchart will be a useful reference throughout the procurement process, and it may be helpful to print a copy to have handy. An additional note: as you go through the guide, you may want to document the process for future reference.



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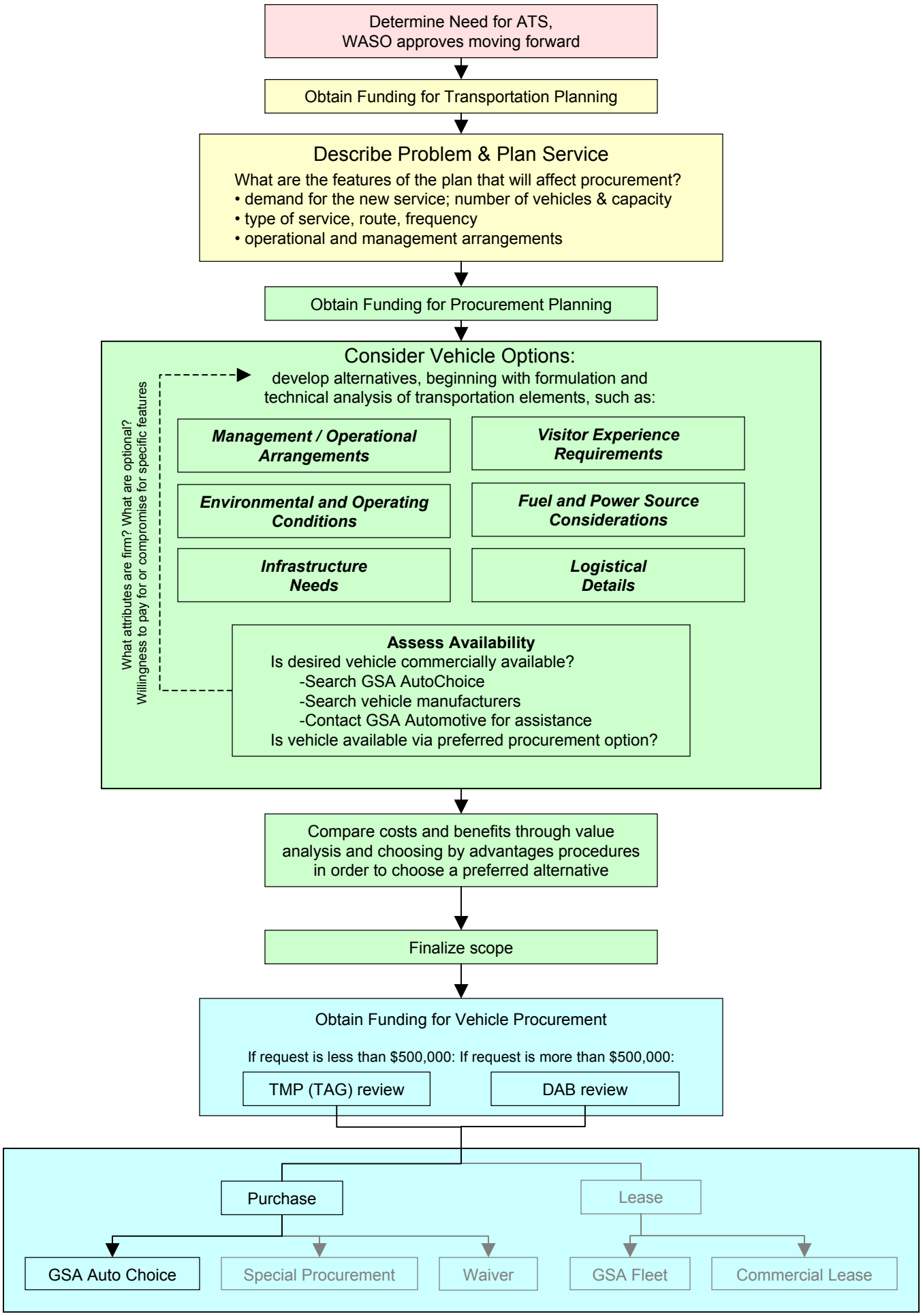

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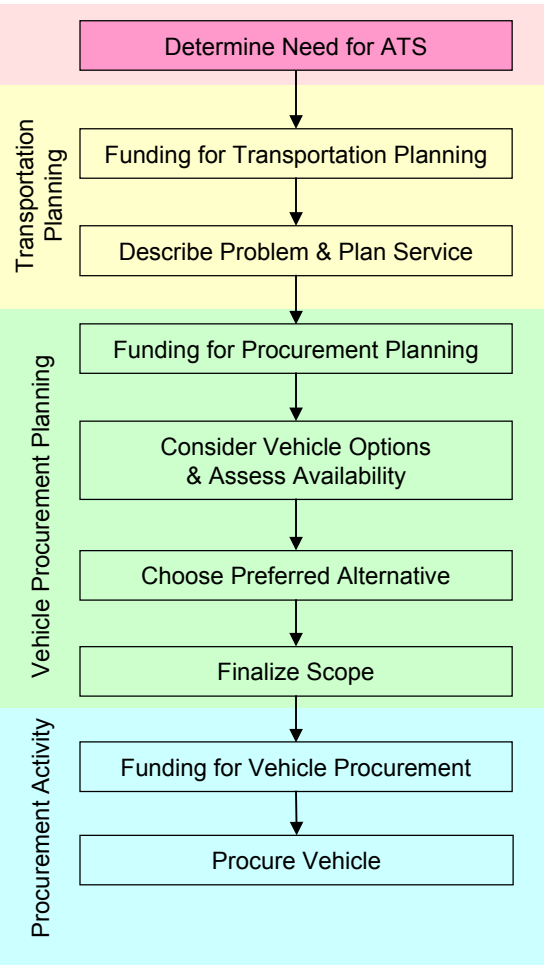

Determine Need for ATS

For parks struggling to manage resource preservation and public accessibility, alternative transportation services may be able to improve visitor access while minimizing their impacts on the natural resources, minimizing air and noise pollution, relieving congestion, improving accessibility and minimizing the number of roads and parking areas needed within the park.

Parks should submit a Project Management Information System (PMIS) request to begin preliminary planning focusing on feasibility and transportation planning. If the park requires assistance in adequately defining its needs and determining the type of alternative transportation service that is best suited to dealing with the park's issues, the park should request assistance from the National Park Service Transportation Assistance Group (TAG), of the Park Facility Management Division, WASO. The TAG will conduct a field visit and produce a Preliminary Planning Project report which will include a brief background and analysis of the transportation planning needs, issues, context and recommendations for technical and funding needs for a project, helping the park to request funds for additional transportation planning and feasibility analysis. More information on TAG assistance can be found through the NPS intranet and the Transportation Management Program.

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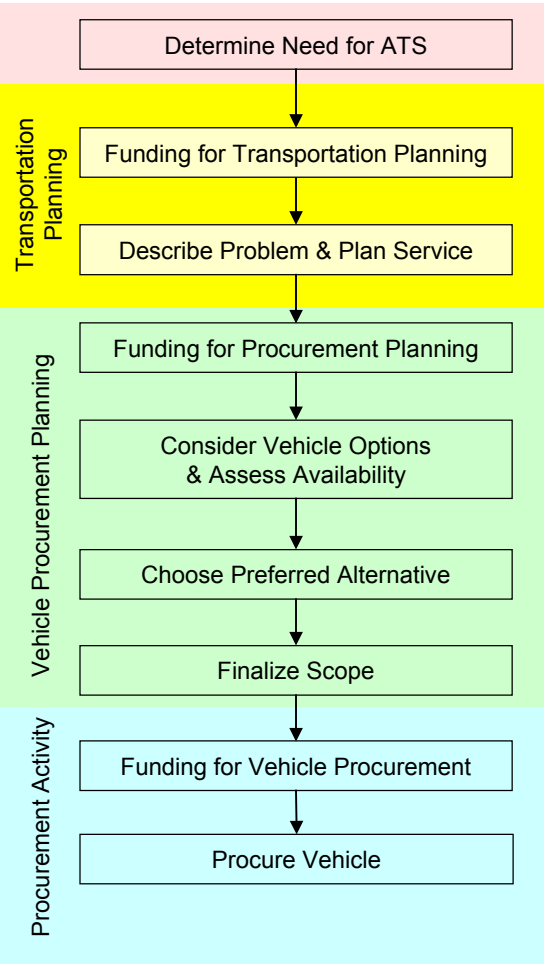

Transportation Planning - Overview

Before the vehicle procurement process begins, the park will need to conduct transportation and feasibility planning and analyses. These activities enable the park to understand what service goals the future vehicles are intended to fulfill, what resources are available for vehicle and infrastructure procurement, and—on a very general level—what types of vehicles the park should be considering.

While an in-depth analysis of transportation planning is beyond the scope of this guide, the following sections provide a brief summary of planning and funding issues related to this phase of the process:

Funding for Transportation Planning

Describe Problem and Plan Service

Parks that are replacing vehicles on existing services many not need to conduct service planning although the purchase of new vehicles may be an opportune time to evaluate the existing service and make changes if needed.

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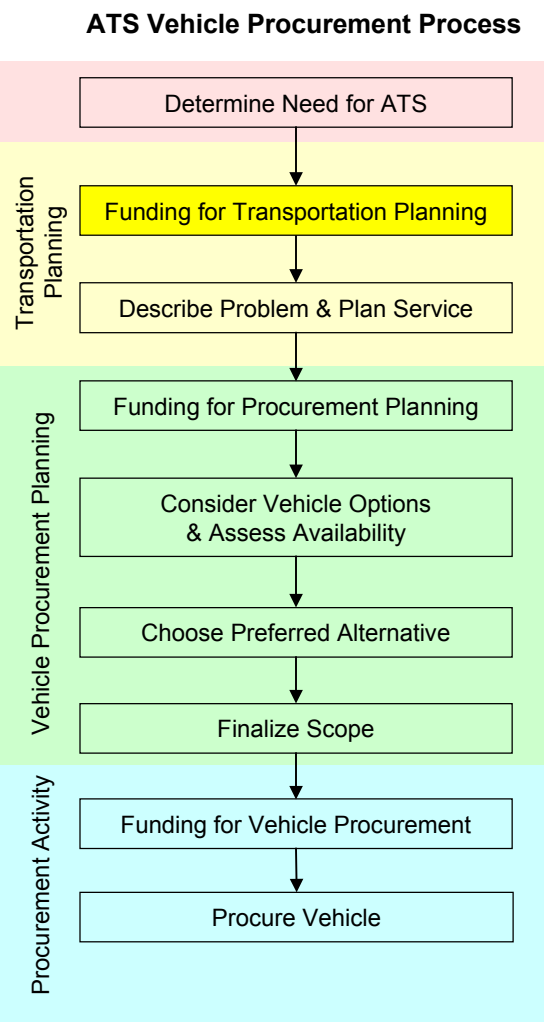

Funding for Transportation Planning

To begin the process of developing an alternative transportation project, the park must secure funds for the service-planning phase. It is important to remember that funding for transportation planning will be separate from funding for vehicle procurement and planning, implementation of the new service, and operations. The amount needed will depend on the scope and complexity of the anticipated service.

The Transportation Management Program considers requests for planning funding in accordance with the current project eligibility guidelines. More information about funding sources and links to additional resources can be found on the TMP web site.[1]

1. http://www.nps.gov/transportation/alt/funding.htm

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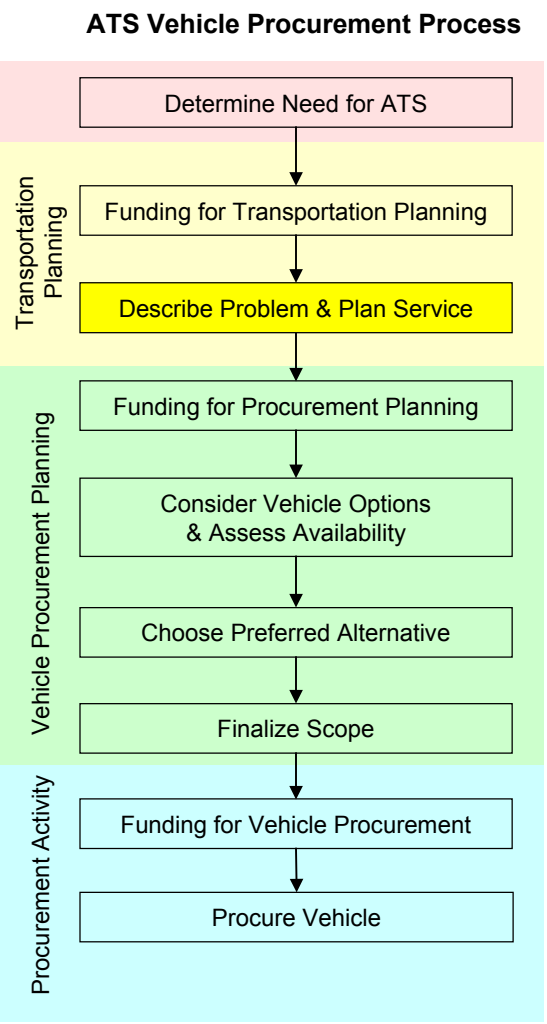

Describe Problem and Plan Service

Service planning is the process of determining the feasibility of transportation service. This is done by analyzing key park attributes, such as the park mission, park visitation and traffic patterns, and the desired visitor experience. As the Procurement Planning section of this guide shows, these variables will affect the number and type of vehicle(s) needed and may influence procurement options and operational arrangements.

The following issues, addressed during transportation planning, will influence vehicle procurement decisions:

- Demand for alternative transportation—what level of visitor demand is expected? Will this change depending on the season or other circumstances?
- Financial feasibility[1]—what are the projected capital and operating costs, and how will these be paid? Capacity needed—based on the demand, how many visitors will the service need to transport on a daily basis? On an hourly basis?
- Route, schedule, headway—what locations will be served? How long will each trip take? How often will vehicles run?
- Visitor experience—what type of service is envisioned: an interpretive tour? A shuttle? A transit-style service with multiple stops?
- Management/operation options—will the park own and operate the service? Will a concessionaire operate and maintain the vehicles? How will partnerships with other organizations impact the management and operation of the service?
- Partnerships—are there transportation providers or local organizations who can participate in operating, funding, or promoting the service?

More information on transportation planning and the NPS TMP planning process can be found in the TMP planning checklist.[1] The proforma should be used to evaluate financial feasibility.

Once the park identifies the basic service plan, it can initiate the procurement planning process to identify the most appropriate type of vehicle(s) to obtain.

1. http://www.nps.gov/transportation/alt/plosky/Checklist/index.html

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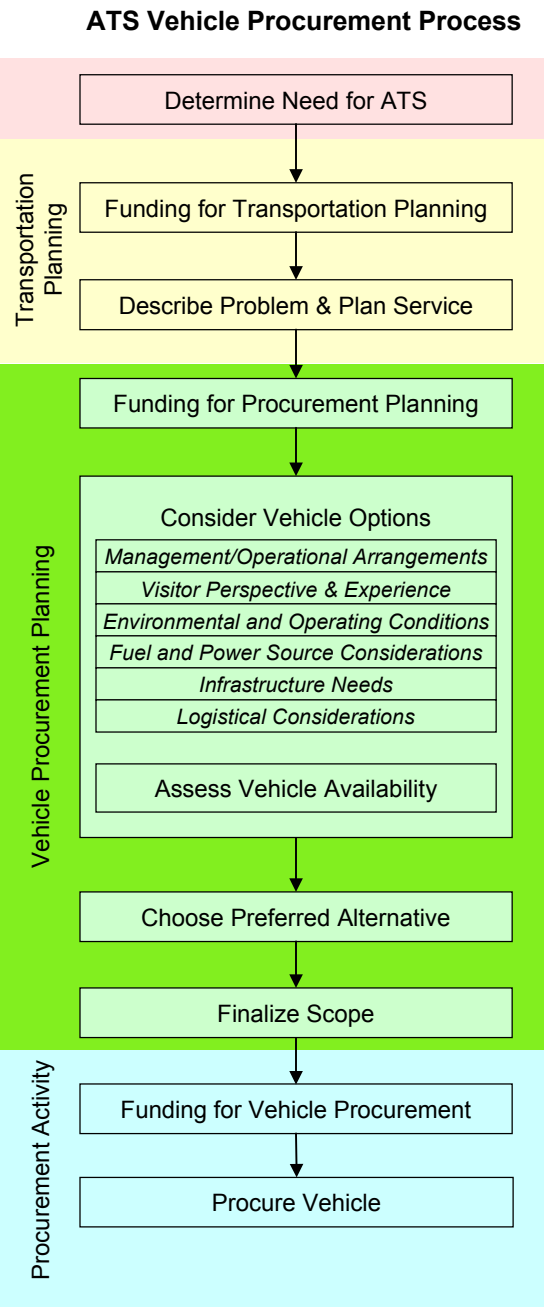

Vehicle Procurement Planning - Overview

Once transportation planning is complete and the park's alternative transportation objectives have been identified, the procurement planning process can be undertaken to identify the types and models of vehicle(s) that will best meet park needs. There are five main components of the vehicle procurement planning process:

Funding for Procurement Planning

Consider Vehicle Options

Assess Vehicle Availability

Choose Preferred Alternative

Finalize Scope

It is important to understand that the second and third activities above, Consider Vehicle Options and Assess Vehicle Availability, should be conducted simultaneously or iteratively. (This is why they are displayed in the flowchart as a single step with two components.) While a park can begin by identifying desired vehicle options and features, not all such vehicles may be available for procurement. If this is the case, the park will need to revise its list of suitable vehicles and features accordingly to better match one or more available vehicles. Please read the introductory paragraphs for both of these steps before going into an in-depth exploration of either vehicle attributes or available vehicles.

It may also be helpful at this point to take a look at the Quick Introduction to Procurement Options.

Resources

GSA has developed a brochure How to Select Buses[1] to provide assistance in determining the appropriate type of bus. This brochure should be used in conjunction with this website when identifying appropriate bus options.

Transit Vehicles for National Parks: Selection Factors and Technologies[2] provides detailed information on vehicle types and designs including alternative fuels.

Alternative Transportation Vehicles and Supporting Infrastructure Guide provides additional information on vehicle procurement considerations.

1. http://www.gsa.gov/gsa/cm_attachments/GSA_BASIC/Barb%206-26k_R2OJ50_0Z5RDZ-i34K-pR.pdf
2. http://www.nps.gov/transportation/alt/vehicletech.htm

Alternative Transportation System Vehicle Procurement Guide

Quick Introduction to Procurement Options

The default procurement method is for the parks to purchase vehicles through AutoChoice, a program of the General Services Administration (GSA). AutoChoice contains buses meeting the Federal Vehicle Standards, which establish minimum requirements for vehicles. Vehicles covered by the Federal Property Management Regulations[1] must be purchased through GSA. However, GSA waivers are *not* required for parks to purchase certain exempt vehicles such as: tactical vehicles, experimental vehicles, prototype vehicles, used vehicles or vehicles equipped with after-market converted engines for use with alternative fuels.

AutoChoice allows the NPS to:

•Compare vehicle models, base prices and equipment options;

•Identify available Alternative Fuel Vehicles (AFVs) from original equipment manufacturers (OEMs);

•Order vehicles online;

•Check requisition/order status;

The AutoChoice website, http://autochoice.gsa.gov, provides useful capabilities; for instance, it allows any park staff member to browse and compare vehicles online. Most parks will only need to consider other procurement methods if AutoChoice does not have their desired vehicle or if leasing, rather than purchasing, appears to be the best option.

Why use GSA AutoChoice?

GSA is responsible for purchasing all federal vehicles, including those for the National Park Service. Three reasons to use AutoChoice are:

- Promotes cost effectiveness through centralized purchasing
- Ensures that procurement meets Federal Acquisition Regulation (required competitive bidding process)
- Ensures that vehicles meet Buy America guidelines

All parks will work with GSA to purchase a vehicle (excluding the noted exceptions) even if a desired vehicle is not listed in AutoChoice. GSA assists the parks to determine the best choice of two alternative methods to purchase vehicles if their needs can not be satisfied through AutoChoice.

The first alternative method to purchase a vehicle is through a Special Procurement: Parks with very unique vehicle requirements can get additional assistance through GSA in sourcing, specifying and purchasing special vehicles that are not included in the Federal Vehicle Standards. GSA cooperatively manages these projects with the customer from inception through the expiration of the warranty period.

The second alternative method to purchase a vehicle is through a request for Waiver: The Park can apply for waiver through the WASO Property Office to allow it to source, specify and purchase vehicle(s) without the assistance of GSA. Some issues that GSA considers in review of a waiver request include the customer's level of urgency, whether the vehicle is in stock readily available for delivery, if the park plans to do a trade-in and whether GSA has resource capacity available at the time to meet the need and expectations of the parks schedule. If GSA issues a waiver, the park is responsible for following all federal procurement regulations, some of which are summarized in Appendix A.

Leasing

If leasing is the best option (as documented during cost analysis during Transportation Planning or Choosing Preferred Alternative), the park can either work with GSA through GSA's leasing program,[2] called GSA Fleet, or can pursue a leasing solution through a contractor that both provides vehicles and operates the transportation service.

1. http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/41cfr101-26.501_R2OI2Q_0Z5RDZ-i34K-pR.pdf
2. http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8211&channelId=-13036

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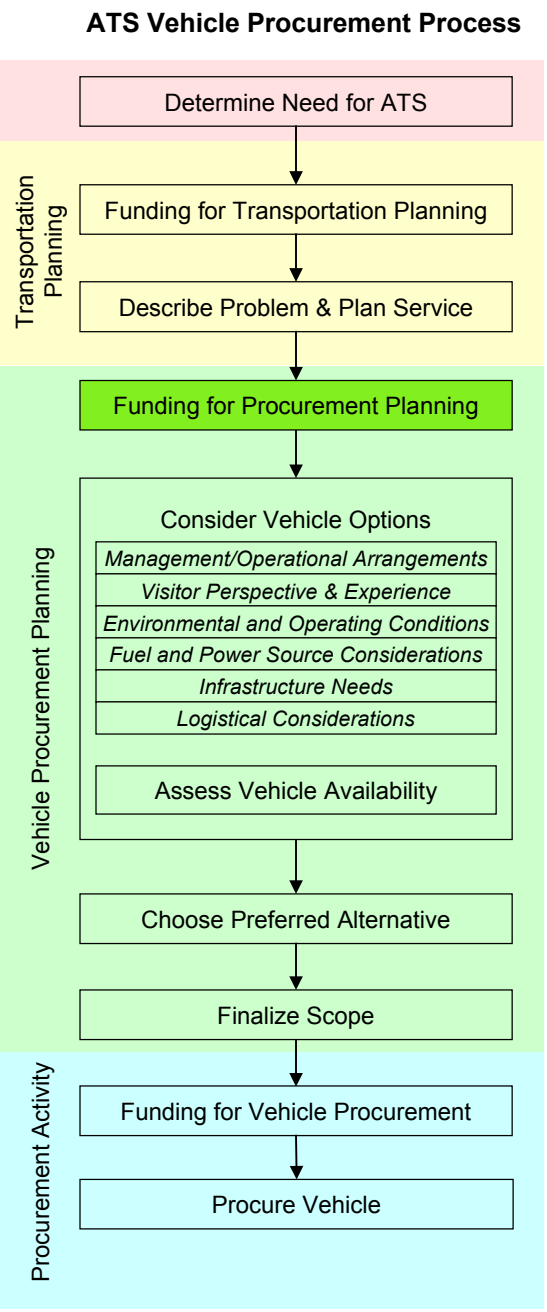

Funding for Procurement Planning

If funds have not already been secured for the procurement planning process, the park must first address this step before proceeding. Adequate transportation planning must be completed before procurement planning funds will be approved (with the exception of replacement vehicles). The Transportation Management Program considers requests for planning funding in accordance with the current project eligibility guidelines. More information can be found on the TMP web site.[1]

It is important to remember that funding for procurement planning will be separate from funding for vehicle procurement. The amount of funding needed will vary depending on how specialized the vehicle needs are.

1. http://www.nps.gov/transportation/alt/funding.htm

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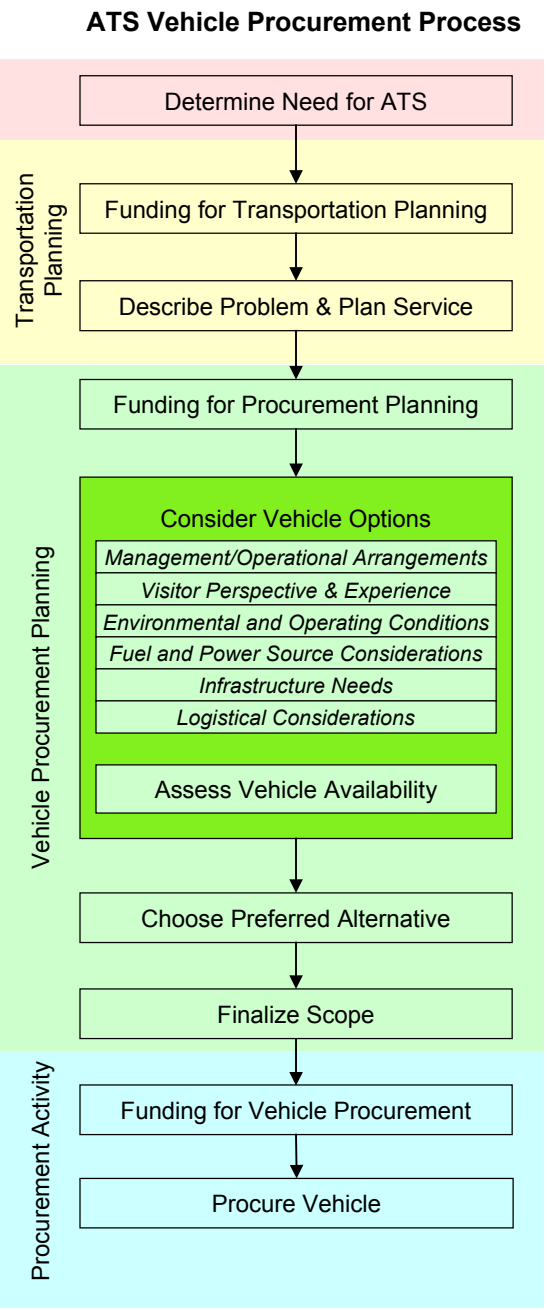

Consider Vehicle Options - Overview:

A wide variety of vehicle options are available. Based on the transportation planning completed by the park, staff need to determine what vehicle designs and features, as well as management arrangements, best meet the park's anticipated service needs. This section describes the different issues to consider when selecting vehicles and management arrangements for the new transportation service:

Management/Operational Arrangements

Visitor Experience Requirements

Environmental and Operating Conditions

Fuel and Power Source Considerations

Infrastructure Needs

Logistical Details

Each of the six categories addresses a specific aspect of the procurement requirements for new vehicles. This guide provides a list of considerations and brief descriptions for each category, and includes explanations of why they are important and how they affect the vehicle choice.

Note that the order in which these categories are addressed is not important, but it is critical to consider *each and every one of them* before making a decision. Some considerations may be more or less relevant for a particular park, and some desired vehicle attributes may conflict with others. For these reasons, a park should not address each category separately before moving on to the next; instead, all the considerations should be evaluated concurrently, in order to make the best trade-offs between competing attributes.

Furthermore, while making these choices, it is important to determine whether the vehicle features and attributes that are desired are actually available in vehicles currently for sale/lease, so as not to reach a decision and find that such a vehicle cannot be acquired. Considering vehicle options should be done in conjunction with searching for vehicle availability, which is addressed in the next section.

During the vehicle considerations stage, it is important to answer two essential questions:

- What are the *core* (critical) vehicle requirements for the transportation operation?
- What are the *other* needs/requirements ("nice to have" attributes) for the vehicles?

Prioritizing vehicle attributes into these categories and documenting these choices will help ensure that the most appropriate vehicle is chosen. See the section on Choosing Preferred Alternatives for more information.

In addition, here are some more general considerations that may be relevant:

- Are there plans for enhancements or development of other transportation service operations that might be affected by vehicle choice in this stage? What additional 'core' requirements might be imposed by future plans for visitor transportation systems?
- Will a single vehicle type satisfy the 'core' requirements for each type of service, or is a 'mixed fleet' situation necessary?
- Do the desired vehicle attributes and options conflict with any federal standards or regulations? Appendix A provides more information on the requirements set by Buy America, ADA, EPACT, NEPA, etc.

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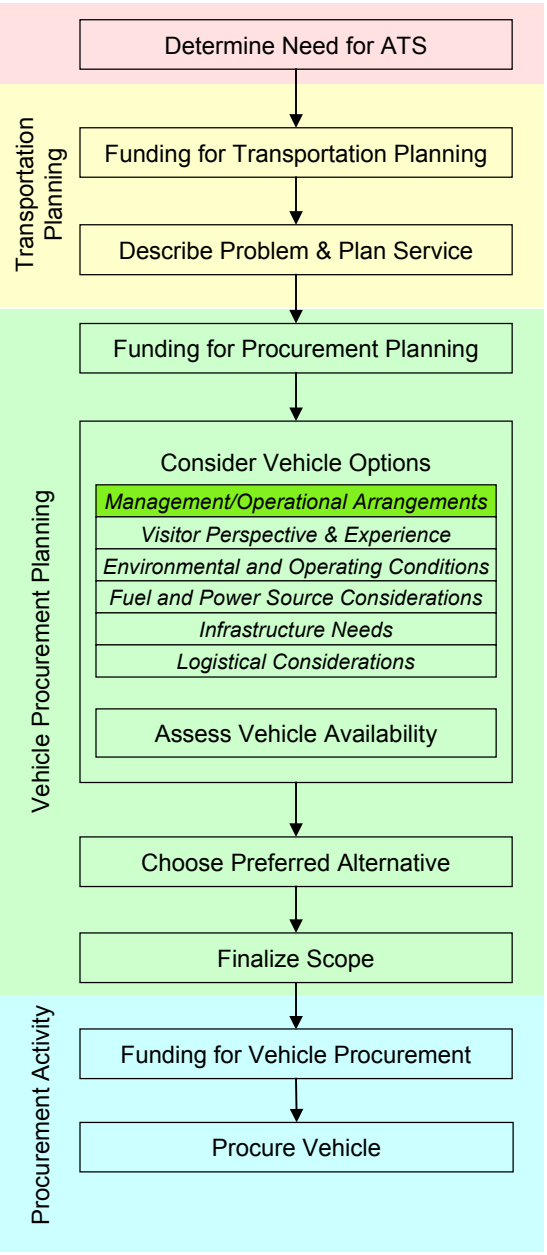

Management/Operational Arrangements Overview

Depending on the type of service, budget limitations, and staff availability, there are a number of possible arrangements for acquiring and operating vehicles including:

- Purchase and Operate: The park itself owns, operates, and maintains the vehicles.
- Purchase and Contract: The park purchases and owns the vehicles, but arranges for an outside organization to operate the transportation service (and possibly maintain the vehicles).
- Lease and Operate: The park leases the vehicles, and operates the transportation service itself.
- Lease and Contract: The park arranges for an outside organization to provide vehicles and operate the transportation service.

Vehicle ownership and operational arrangements are discusses independently in the following sections:

Purchase vs. Lease

Operate vs. Contract

Transportation Management Program

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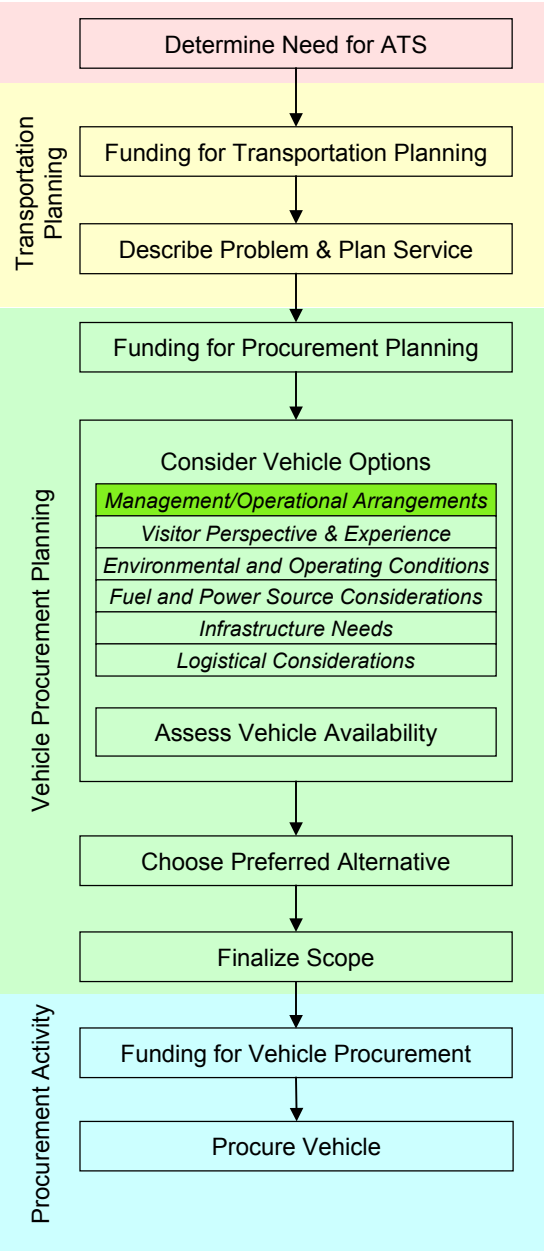

Management/Operational Arrangements (cont'd)

Purchase vs. Lease

Purchasing vehicles is the standard procurement method for the federal government, and is the default action in an NPS procurement. Capital costs, including vehicle purchase costs are paid for by various sources, including TMP. Note: TMP does not fund operating costs.

In some circumstances, leasing a vehicle will make more sense financially. In these instances, the park holds the burden of proof for demonstrating that leasing provides long-term financial benefits. Federal guidance on the requirements for this analysis are specified by the Office of Management and Budget (OMB) and can be found on the OMB website.[1] The NPS Property Management Handbook[2] has additional information about leasing vehicles.

There are a number of important factors to consider when making the decision between leasing and purchasing park vehicles:

- Costs—What are the operations and maintenance costs for the planned service? Do different management scenarios impact these costs?
  - TMP funds capital costs, which include purchasing vehicles, but not operating costs. How does this impact your financing scenario?
  - Combining leasing with a service operation concession may be a factor in making leasing less expensive
- Vehicle Options— The park may have a broader range of vehicle options if vehicle selection is not limited to what is available through AutoChoice
- Logistical and Long Term Implications
  - Leasing may allow the park may have more flexibility to scale a transportation service over time
  - Vehicle maintenance is generally included in lease contracts
- Insurance—What insurance is needed for different ownership arrangements? What are the price differences?

1. OMB Circular A-94, "Guidelines to Discount Rates for Benefit-Cost Analysis of Federal Programs": http://www.whitehouse.gov/omb/circulars/a094/a094.html

2. NPS Personal Property Management Handbook #44 Section 11: http://www.nps.gov/policy/DOrders/DIR44.ZIP

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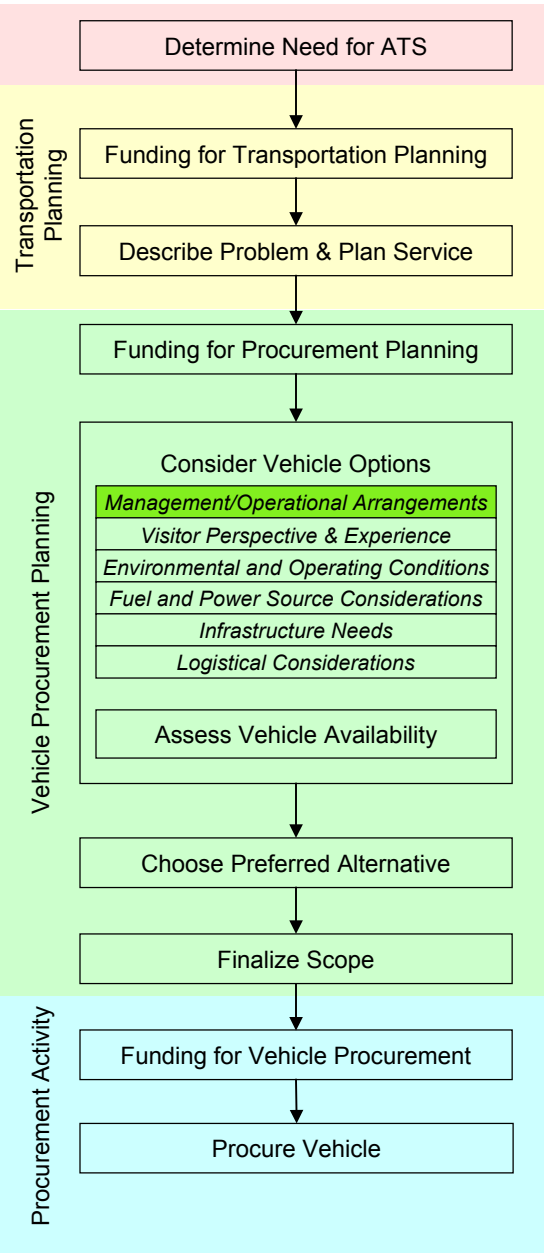

Management/Operational Arrangements (cont'd)

Operate vs. Contract

Depending on the vehicle chosen for the transportation service, as well as on the type of service and NPS staff availability, it may make more sense to have a contractor or concessionaire operate the transportation service. NPS has more than 110 surface transportation systems operating within its boundaries but fewer than 25 services are actually operated by the park service. To see what other parks do regarding operate vs. contract, visit http://nps.gov/transportation/alt. The park may find running its own transportation system too expensive or staff-intensive; contracting out operations may be a more practical arrangement. This is especially true if the park is planning to partner with a local transit operator. Here are some factors to consider when determining the optimal operation arrangement:

- Costs—What are the operations and maintenance costs for the planned service? Do different management scenarios impact these costs?
- Operation—Is the park capable of staffing the service? Does the park have staff trained and qualified to operate the vehicles? Will the service include an interpretative component that requires additional staff?
- Service seasonality – If the service schedule varies by season, how does the fact that the service may run for only a few months a year impact the staffing and vehicle costs.
- Is the park partnering with another organization, such as a transit agency or non-profit organization? Partners may have "infrastructure" to provide operating/maintenance services, or may have specific vehicle design requirements.
- Concession feasibility – Is there local commercial interest in running a concession? Without existing potential concessionaires, costs of contracting out a service could be higher than expected in order to attract bidders.
- On-site storage/maintenance logistics—Is it possible to store and maintain vehicles at the park? What facilities will this require, and what are their associated costs?
- Insurance—What insurance is needed for different ownership/operations arrangements? What are the price differences? (Note that insurance requirements and rates vary significantly by state and type of vehicle; be sure to determine the costs for a park's specific circumstances.)

The following summarizes the benefits and constraints of the park operating a service or contracting it out.

	Operate	Contract
Pros	• More control over route and service • If operators are park staff, may be knowledgeable about park and more helpful to visitors	• Operation is less of a hassle for parks from day to day • If paired with leasing, may handle vehicle maintenance, storage, and other logistical details • May be less financially risky for the park
Cons	• Requires staff time • Requires staff to be knowledgeable about operating vehicles and managing services	• Less control over service • More complicated to set up, requiring additional paperwork etc • Operators may not know anything about the park • Operators may vary from day to day

Transportation Management Program

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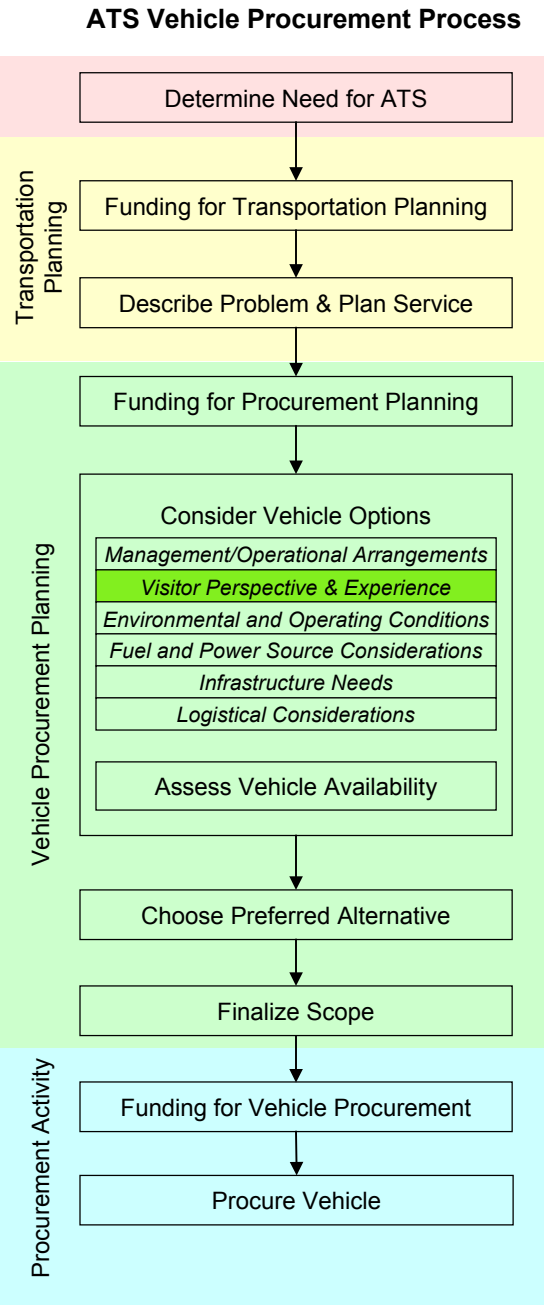

Visitor Perspective & Experience

After determining what type of service to provide, it is important to consider how best to serve the visitors and their needs—and to determine which features of the vehicle will complement the service. For example, for a two-hour interpretive tour, the priorities may be plush seating, large windows, and air conditioning. On the other hand, if the service takes visitors to locations where they will be hiking and fishing, it may be more important to provide sufficient room for camping/fishing equipment and a vehicle floor that is easy for park staff to clean.

What are the core (critical) vehicle requirements for the transportation service? What are the other desired features ("nice to have" attributes)? This section provides a checklist of the issues which NPS staff should consider when identifying vehicle features that will directly impact visitor experience.

Capacity/Layout/Design:

- Number of adult or child seats, and standing room sufficient for demand
- Number of wheelchairs to be accommodated. Will a lift be internal or external? Is the vehicle otherwise ADA compliant? (Appendix A)
- Type, number, and location of doors—How quickly will passengers need to get on and off? Will a ticket/fee be collected at the door? Will extra or larger doors reduce seating capacity?
- Interior seating configuration—forward facing, perimeter, or combination? How does this affect overall seating capacity?
- Amount and location of baggage and equipment storage—interior or exterior? Front, rear, or overhead?
- Need for bicycle racks

Comfort:

- Type of window—Is visibility a high priority? Will windows need to open? Should they be tinted?
- Sound insulation—This can be affected by window type. Will internal noise, such as from AC, adversely affect any interpretive talks on the bus?
- Seating type—What type of materials do you want—fiberglass, deluxe cloth, vinyl? Should they be low or high back? Do they need to recline or have armrests?
- Need for air conditioning or heating
- Floor height—affects ease of boarding; (also see Environmental and Operating Conditions)
- Need for on-vehicle lavatory

Miscellaneous Features:

- Need for video/audio system (for interpretive tours), hands free headset if driver is to be tour guide
- Paneling/flooring material—affects comfort and ease of cleaning
- External appearance—affects attractiveness of service. Does the vehicle appearance have a visual impact on the park setting?
- Historical or thematic significance—old fashioned vehicles or special features may enhance the service and support interpretive themes at the park.

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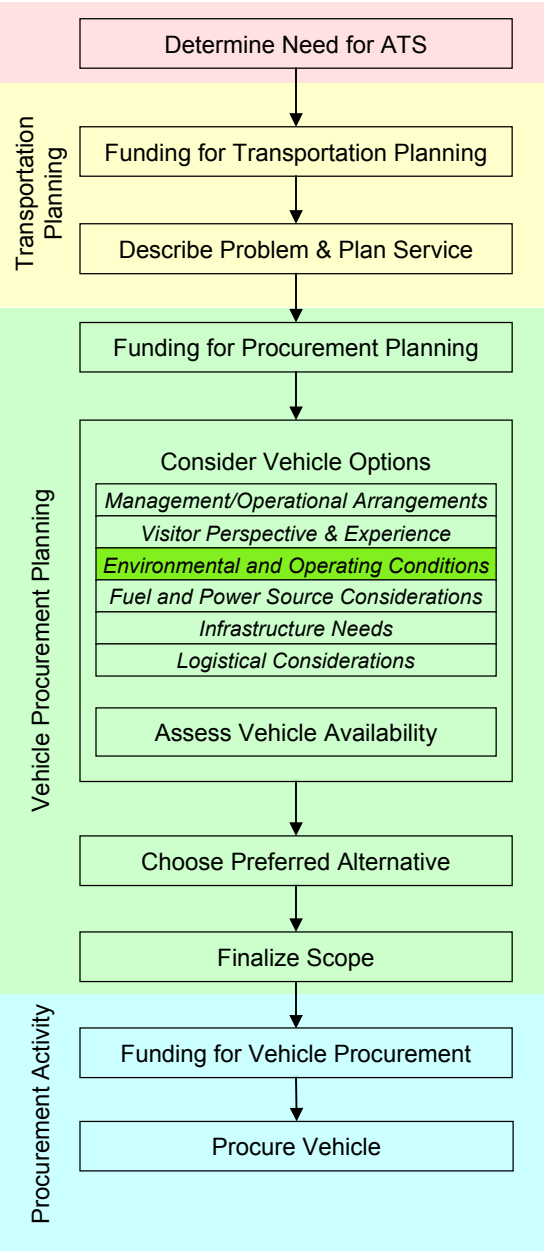

Environmental and Operating Conditions

The environment in which the vehicle will be operated must be considered and factored into the vehicle design because it may affect vehicle operation, maintenance, and suitability for use. For example, the ability to incorporate technologies appropriate for a specific environment, such as snow chains for winter operations, will influence the design and may limit you to certain choices of vehicles.

What are the core (critical) vehicle requirements for successful vehicle operation? What are the other desired ("nice to have") attributes? This section provides a checklist of the environmental and operating conditions that should be evaluated and factored into vehicle design choices, and an explanation of how well different vehicle characteristics can accommodate these conditions.

These conditions will almost certainly impact the choice of vehicle. For each of these issues, be sure to consider not just the conditions on the scheduled route (including any pullouts, turnarounds or overlooks), but also the roads that will be used when the vehicle needs maintenance or refueling.

There are three main categories of relevant issues that will impact vehicle characteristics, and the important considerations for each are detailed in the next few pages:

Size Considerations

Operating Considerations/Power/Engine Capabilities

Environmental Considerations

Once the environmental and operational conditions have been evaluated, it becomes possible to determine which attributes of the vehicle itself will be best suited to the route. A discussion of the various Vehicle Characteristics follows.

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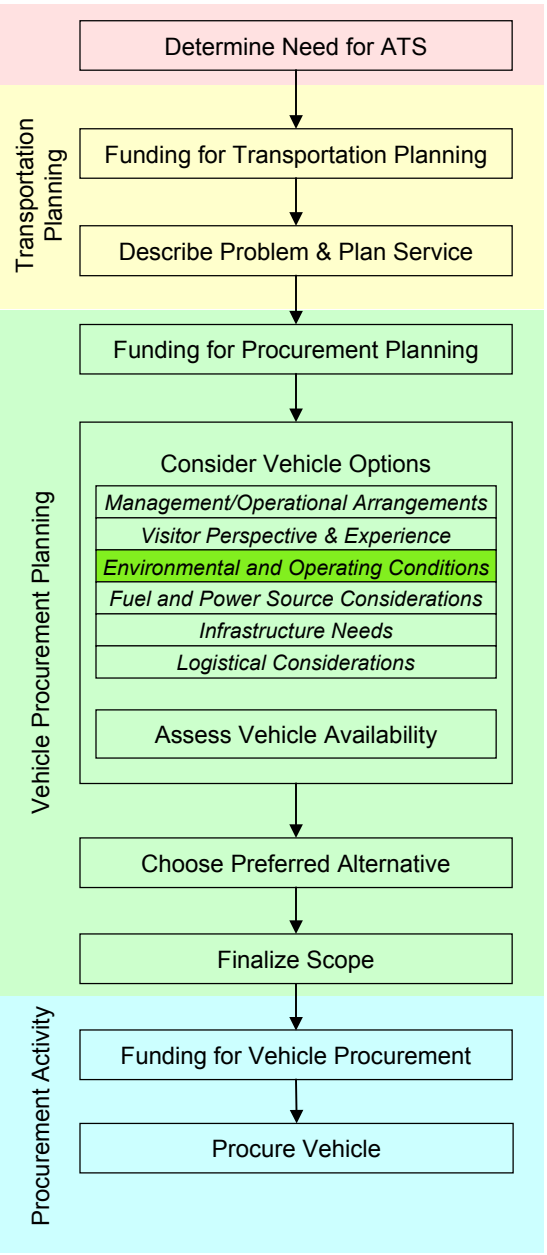

Environmental and Operating Conditions (cont'd)

Size Considerations

How will environmental conditions and service requirements impact vehicle characteristics such as height, weight, width, length, and turning radius?

- How many people does the vehicle need to carry (based on the demand for service)?
- Route limitations—What size of vehicle can the route accommodate? Does the right-of-way width limit the vehicle width?
- Horizontal curve radius—Where are the most restricted parts of the road network? Are there locations of severe combined grade and curvature that would limit the vehicle size?
- Are there locations on the service route with restricted passing, and/or stopping sight distances?
- Number and size of designated pick-up/drop-off areas
- Road condition—will the roads be able to handle the increased weight?
- Maximum Load—Does the road have a load-bearing limit? What about bridges?

Operating Considerations/Power/Engine Capabilities

- Road speed—What speeds are desired for the tour or shuttle service? Are different speeds required within park or on external roads?
- Duty cycle—How many stops per mile? How many miles per day? What is the average distance between stops?
- Grade—Are the roads on the service route flat, hilly, or mountainous? What are the maximum grades and associated lengths?
- Road surfaces—Will the vehicle be traveling over smooth pavement, gravel, dirt, mud, or snow? Are there severe off-road conditions? Are there locations with poor traction?
- What are the anticipated times and distances between refueling/recharging?
- Temperatures—What are the lowest/highest operational temperatures?
- Weather and Altitude—Are there extreme circumstances that might affect the vehicle?
- Are there any special considerations (e.g., saltwater in a seashore environment, high fire-risk along the route)?

Environmental Considerations

- Other users of the road network—pedestrians, bicyclists, horseback riders, and other motor vehicles
- Air quality—What are the minimum air quality levels that can be tolerated in the area, based on local & regional air quality standards?
- View shed—What is the impact of the vehicle, when moving and when parked, on the integrity and quality of the view from visitor attractions?
- Noise levels [1]—What noise level is acceptable given the proximity of roads to wildlife habitats? Will noise interfere with visitor enjoyment and experience of the park?

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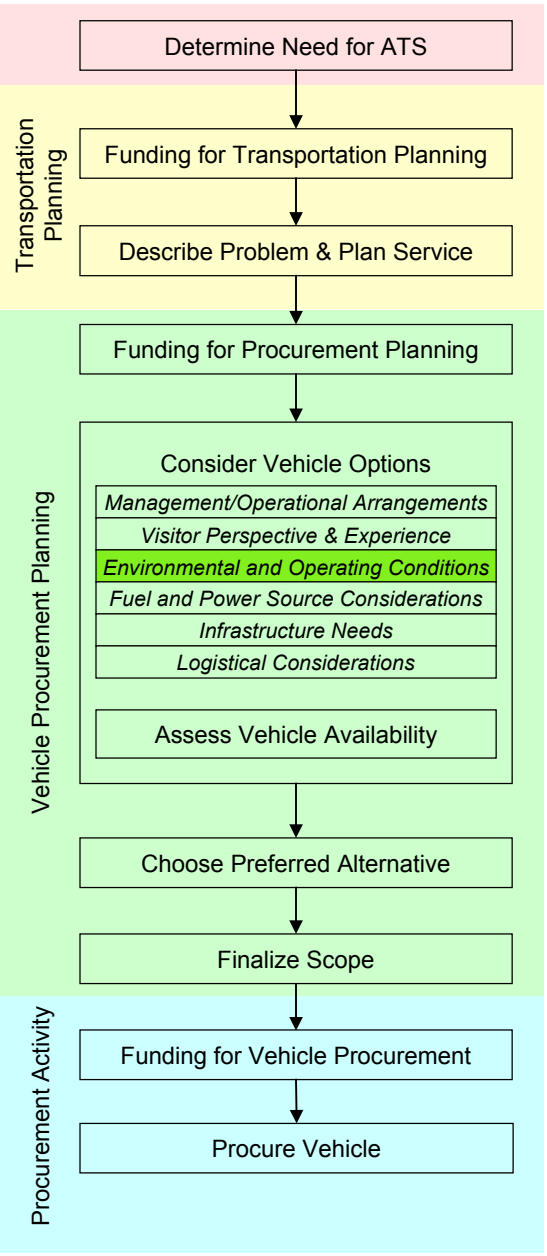

Environmental and Operating Conditions (cont'd)

Vehicle Characteristics

- Suspension—The suspension technology used on a vehicle will affect the ride and control of a vehicle. Suspensions may be configured with variable height capability and/or kneeling technology. Variable height allows a vehicle to raise or lower its height depending on road and speed conditions. Kneeling technology allows the vehicle to lower several inches near the boarding area to facilitate loading and off-loading.
- Overall Size—What length and width (maximum or minimum) is appropriate for the planned capacity and the service route? Are there size restrictions that need to be observed to enable the vehicles to access certain locations in the park?
- Wheelbase—The wheelbase, measured as the distance between the tires, affects the ride comfort and performance, turning radius, axle load, and the approach, exit, and break-over angle of a vehicle. Wheelbase choices to optimize one characteristic may negatively affect another.
- Floor Height—A transit vehicle can either be configured as a high-floor vehicle, which requires steps from the curb to the floor, or as a low-floor vehicle, in which no steps are present and the maximum step-up height is 15 inches. Ground clearance (including break-over angle and approach / exit angles which affect ground clearance in going up and over inclines) also may be less on a low-floor than a high-floor vehicle. The technology employed on low-floor vehicles typically increases the cost (10% increase on a 40' bus, for example).
- Materials—The materials used in a vehicle's frame and body affect its cost, performance, and durability. Material choices include stainless steel, plain carbon steel, high-strength steels, aluminum, and carbon-fiber composites. These materials vary in cost, weight, environmental durability, and maintainability. The benefit and value of a given material must be evaluated relative to its specific application. Moreover, some materials may not be offered for some vehicle types.

There may be additional environmental conditions unique to the region that need to be taken into consideration. For example, in dry areas there may be a fire danger from exposing grass to hot exhaust from the tailpipe; locating the tailpipe in the center of the rear of the vehicle or at the top of the vehicle can reduce this risk. Electrical components operating in or near marine environments or where road salt is used should have components that are rated for a high salt environment. Other factors such as grade, altitude, precipitation, climate, protection from insects and nature, etc., also need to be considered.

More information on vehicle characteristics can be found in *Transit Vehicles for National Parks: Selection Factors and Technologies*[1] and *Alternative Transportation Vehicles and Supporting Infrastructure Guide*

1. http://www.nps.gov/transportation/alt/vehicletech.htm

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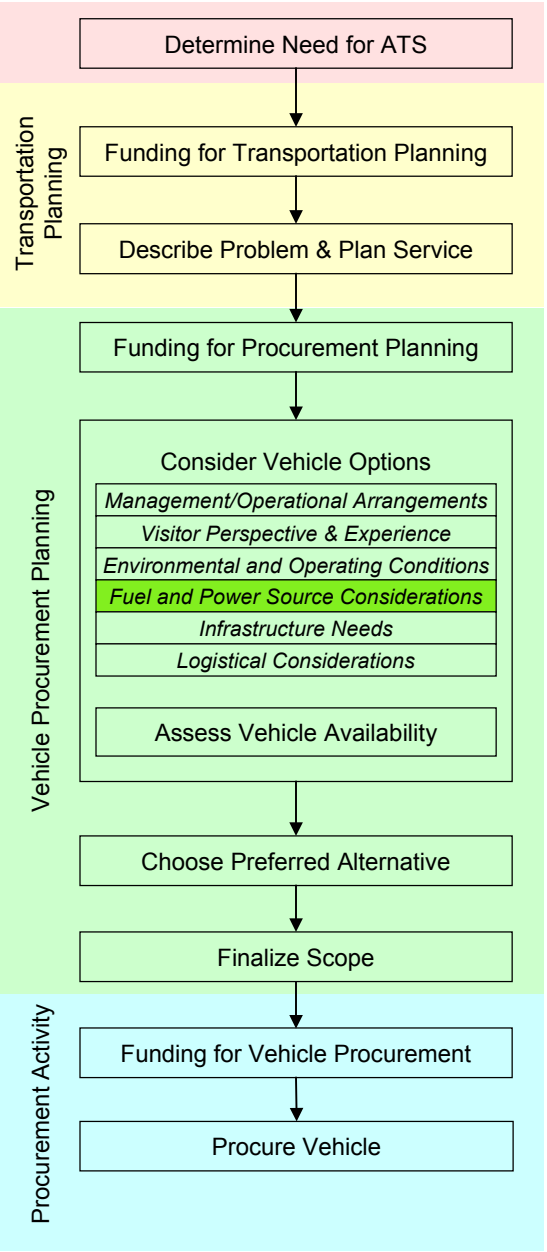

Fuel and Power Source Considerations

The National Park Service is required by the Energy Policy Act of 1992 to use alternative fuel vehicles (AFVs) when practical.[1] Using AFVs is often in the best interests of parks as well, in order to reduce vehicle emissions and air pollution. There are many different fuel options available, including:

- Conventional fuels (diesel, gasoline)
- Alternative fuels and propulsion systems (examples: biodiesel, hybrid-electric, ethanol)
- Other fuel alternatives (examples: bi-fuel, GNG-Hydrogen blend, supplied electric)

Detailed information about the various fuel options can be found in the document Transit Vehicles for National Parks: Selection Factors and Technologies.[2]

Which fuel option is best for the park will depend largely on local infrastructure (whether it will be possible to refuel near the park, what maintenance facilities are available), and other vehicle requirements (the vehicle that satisfies the park's highest priority service and design requirements may only be available with certain fuel types). Relevant considerations include:

- Performance characteristics of the propulsion system (power, range)
- Relative costs of the propulsion system (capital and operation/maintenance)
- Maturity of the technology
- Environmental factors (emissions)
- Operating environment issues (heat, cold, etc.)
- Refueling requirements (infrastructure, ease, safety)

An additional issue to consider is whether the vehicle of choice will need to be outfitted with extra fuel capacity, to enable an extended service range between refueling. The logistics of adding fuel capacity vary, depending on the desired range, type of propulsion system and size of vehicle.

Alternative fuel technology is changing rapidly and alternative fuels are becoming more widely available in large passenger vehicles. While it may make sense for the park to adopt new fuel technologies, it is important to remember that some of these technologies may not be fully mature and may not yet have a history showing reliability.

A trial program has been funded by FTA to assist NPS with questions regarding alternative fuel vehicles (Appendix B). For further information and assistance in selecting a propulsion system, the park should contact Advanced Transportation Technology Institute (ATTI), a non-profit organization charged with supporting the use of clean fuel vehicles throughout the United States. ATTI can be contacted at (423) 622-3884.

1. Section 303 of the Energy Policy Act of 1992; also refer to Section 302 of Executive Order 13149, "Greening the Government through Federal Fleet and Transportation Efficiency" which addresses related issues of alternative fuel infrastructure availability and reduction of petroleum fuel consumption.

2. Fuel options on pp 22-36, http://www.nps.gov/transportation/alt/vehicletech.htm

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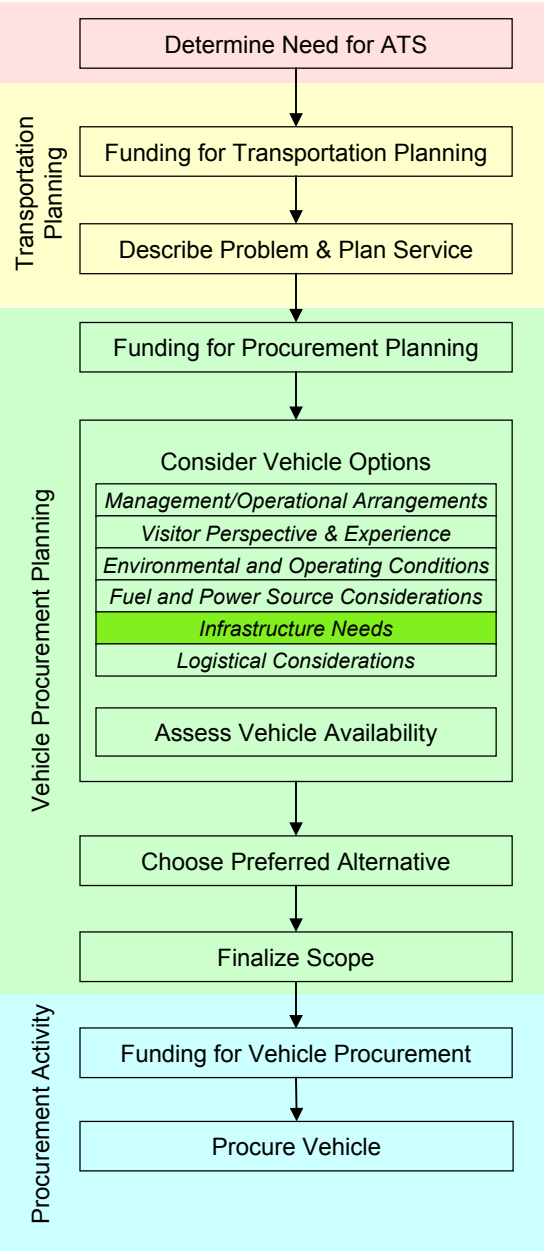

Infrastructure Needs

Depending on the type of vehicle chosen and the scale of the transportation service to be implemented, there may be additional capital costs beyond the price of the vehicles themselves. These can affect the choice of vehicle both in terms of making sure that the vehicle will work with existing infrastructure, and in terms of the budget that is available to spend on the vehicle if funds must be shared with other infrastructure costs.

- Roads—Will the vehicle be able to use existing rights of way, or will roads need to be constructed, resurfaced and/or expanded?
- Vehicle storage—Will the vehicle be parked outdoors or in a garage? Will the vehicle fit in an existing garage or will a new one need to be built? Is there space available for a new building?
- Maintenance—Will additional facilities, tools and staff training be needed?
- Fuel provision—Is on-site refueling necessary, and if so, are additional facilities needed? If using an alternative fuel, what type of infrastructure will this require?
- Visitor amenities—Do shelters, signs and route maps, benches, and shelters need to be erected at planned pick-up/drop-off locations?
- Ticketing—If riders will be required to purchase tickets to ride the vehicle, where will the transaction take place?
- Service information—Information about routes, service schedule, prices, etc. should be available via the park's website and on-site in signs or pamphlets. What printed materials and website content need to be produced?

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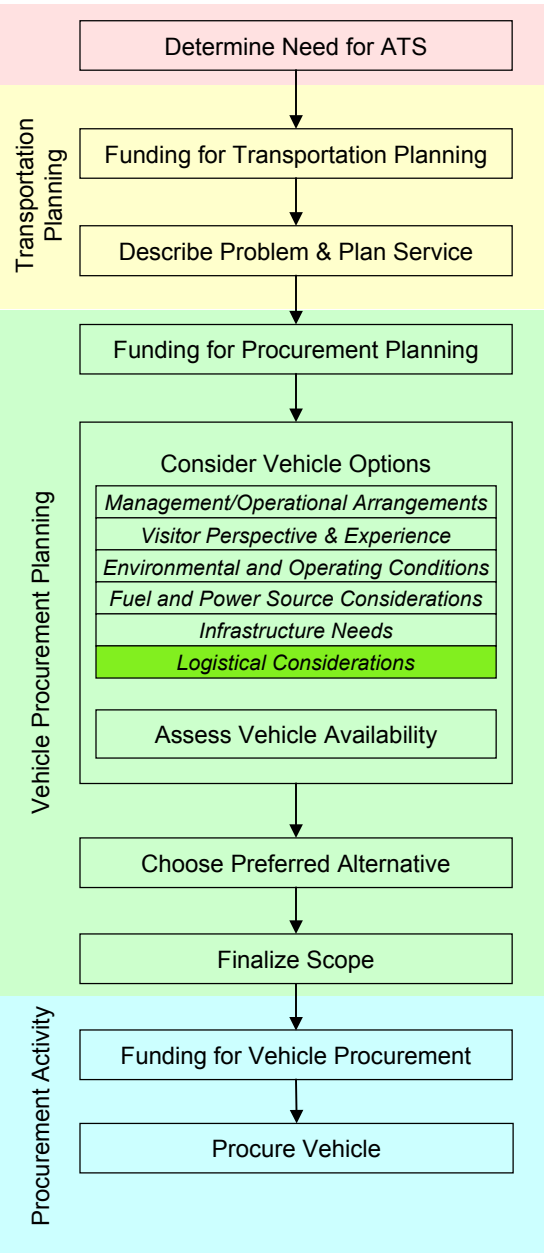

Logistical Considerations

Beyond the physical attributes of the selected vehicle, there are some important aspects of operating and maintaining the vehicle that must be considered. These factors may greatly impact the ease or difficulty of running an alternative transportation system and of owning a vehicle.

- Does the vehicle manufacturer being considered have a dealer or maintenance facility close to your facility for warranty issues and/or repairs?
- If using an alternative fuel or power source, your park's staff may not possess the needed specialized maintenance skills and training. Is it desirable to train your staff or would you contract for basic maintenance? What would be a reasonable distance to travel to an appropriate non-NPS facility for service?
- Does the vehicle require any special drivers' qualifications or certifications? Is it a priority that someone without a commercial driver's license be able to drive the vehicle?
- Is the wheelchair lift operable by park staff/driver? How does the design impact maintenance and operability? External lifts may require significant maintenance to counteract the effects of exposure to the elements.
- It is important to think about the average distance-between-failures, rollout rate, and amount of scheduled and non-scheduled maintenance for your desired vehicles. Are these compatible with the park's needs?
- Is there any interest/need for Intelligent Transportation Systems (ITS) to be incorporated into the park's transportation service (e.g., vehicle locators, etc.)? Appendix C contains more information about ITS.
- Interface Requirements / Off-Site Interfacing—What considerations need to be addressed for vehicle operations (such as a pick up point) outside the park: permitting, additional infrastructure, etc.?

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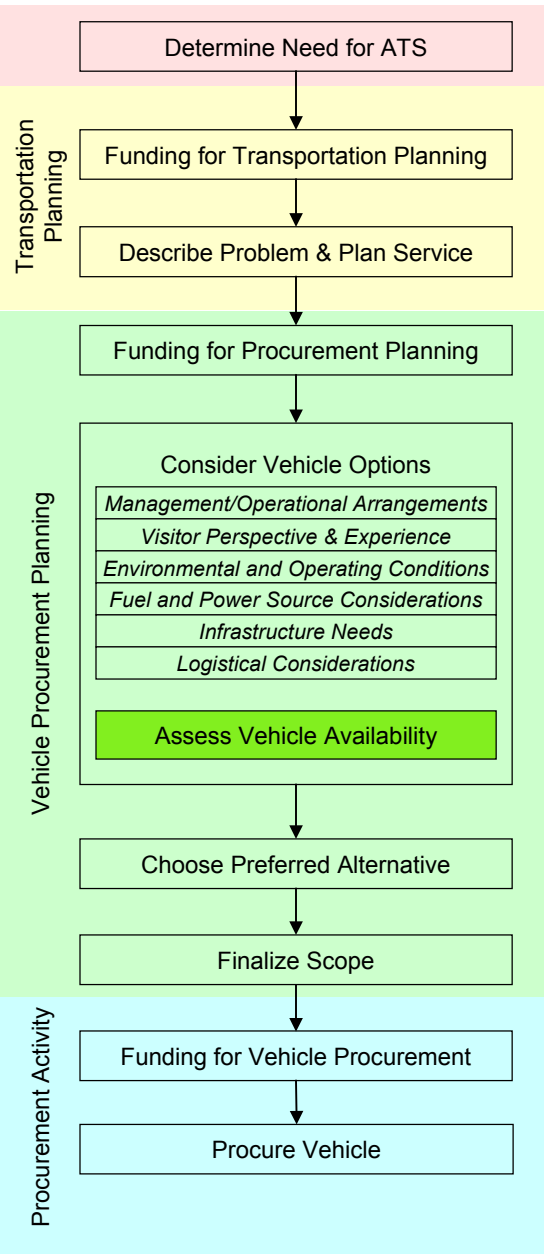

Assess Vehicle Availability

While determining the appropriate vehicle attributes and features for the transportation service, it is important to keep in mind which combinations of attributes are actually available. It is possible that a number of vehicles meet the core requirements, but they may have varying combinations of "nice to have" features at different costs. Ideally, park staff will be able to identify a number of vehicles that fit the park's needs and from which to make a final choice, either through leasing, GSA or a waiver.

It may be helpful before continuing to refer to the Quick Introduction to Procurement Options for an overview of the different purchase and lease options available.

Since most procurements will be made through GSA, AutoChoice (GSA's purchasing program for government vehicles) should be the initial resource for identifying appropriate vehicles. GSA Automotive's Heavy Vehicles Division manages large passenger vehicle procurements through a program called Buses All Ready to Buy (BARB). Through this program, GSA pre-approves specific vehicles for government purchase. In 2006, GSA will introduce a Federal Standard for Buses (833), which should help standardize vehicle availability.

AutoChoice can be accessed on the GSA website at http://www.autochoice.gsa.gov. Each individual using AutoChoice must register individually. For NPS staff, the Agency Code is 14 and the Bureau Code is 17. Navigating the website should be fairly self-explanatory; there is a detailed FAQ page provided for reference.

If the exact vehicle is not available on AutoChoice, work with the approved contractors and GSA to determine if additional features/alterations can be made within the existing GSA contract. AutoChoice is designed to purchase vehicles as they are described within AutoChoice, but if there is a close match GSA may be able to procure the desired features anyway.

The GSA Automotive Customer Care Cars Line (at (703) 605-2277) or vehicle.buying@gsa.gov should be contacted if there are questions about vehicle availability through AutoChoice. If the desired vehicle type is not available through GSA, staff should contact GSA and NPS procurement staff to let them know that there is interest in the specific vehicle type. GSA focuses on high-demand vehicles and will add vehicle types if enough interest is expressed.

If it has been determined that the wanted/needed vehicle is not available through AutoChoice, it is possible that an appropriate vehicle is available/manufactured. In order to determine whether the vehicle exists, the park can work with technical/commercial consultants and contact commercial manufacturers. When looking at other vehicle providers, remember that GSA may not grant a waiver authorizing purchase outside of AutoChoice unless the park can present a compelling argument for doing so.

Non-AutoChoice

If an appropriate vehicle is found outside of AutoChoice, it can be procured in one of two ways. GSA Automotive can assist the park with a Special Procurement, or GSA can grant a Waiver and give the park authorization to purchase the vehicle on its own. Quick Introduction to Procurement Options provides a summary of alternative procurement methods.

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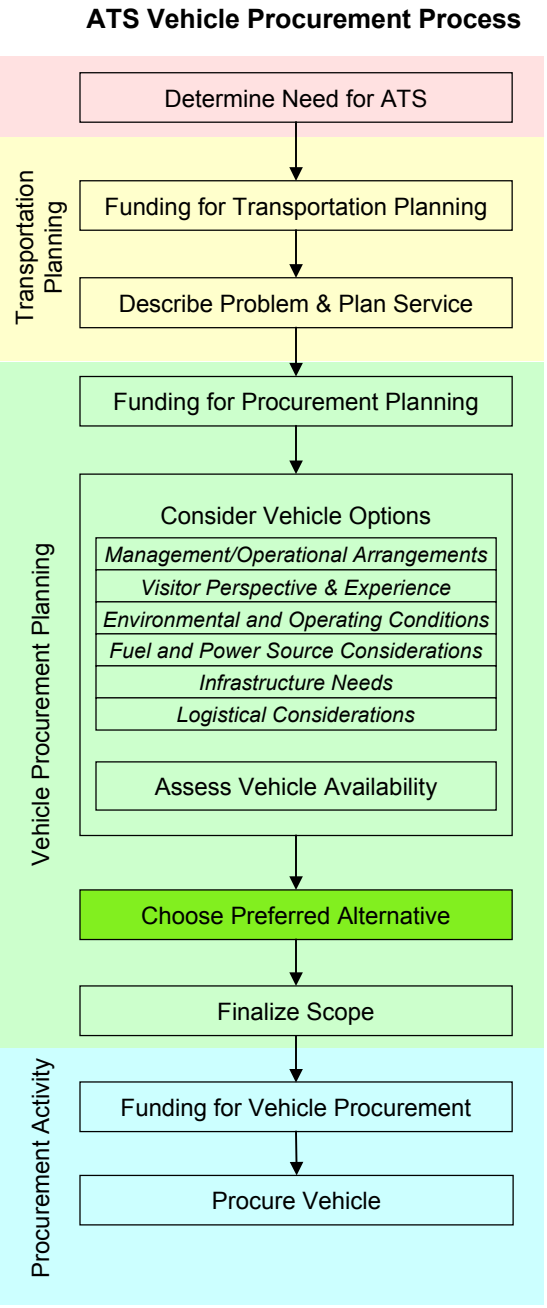

Choose Preferred Alternative

As is standard for all NPS projects, value analysis or Choosing by Advantages should be used to select the desired vehicle from among the available options.

Choosing by Advantages (CBA) is a selection and ranking process used to evaluate the relative merits of different projects. In using the process, the National Park Service asks itself "what and how large are the advantages of each project" proposed for consideration, "how important are the advantages of the projects," and finally "are those advantages worth their associated cost?" This is preferred to "weighting" factors in advance (whereby some factors are automatically more important than others), so dissimilar projects can be ranked equally on their overall contribution to NPS goals. More detail can be found in the document *NPS Priority Setting Process: Choosing By Advantage (CBA)*.[1]

While analyzing the different vehicle options, there are some things that are particularly important to keep in mind:

- Make sure that each of the proposed alternatives meets all necessary requirements and regulations. These include environmental compliance, ADA requirements, and Buy America requirements
- Cost is always important, but selecting the right vehicle for your specific operational requirements is essential. Furthermore, the vehicle with the lowest cost may be more expensive and difficult to maintain. Be sure, when comparing costs, to look at the cumulative capital and operating costs over the entire lifecycle of the vehicle.

1. http://workflow.den.nps.gov/staging/10_PublicForms/CBA%20One%20Page%20description.doc

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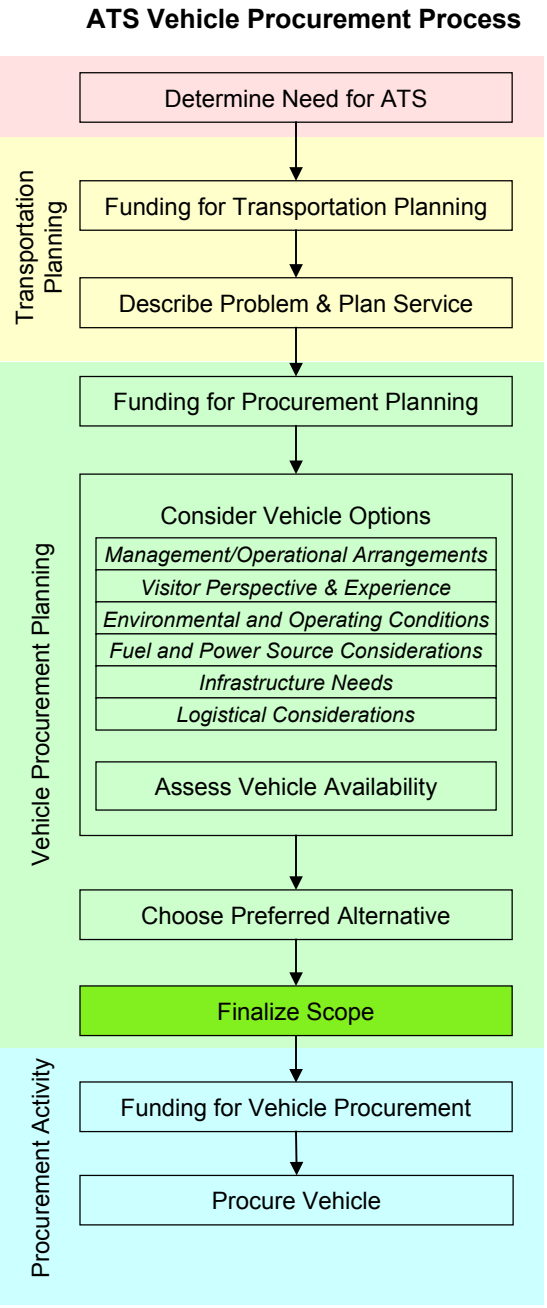

Finalize Scope

After all possible vehicle alternatives have been analyzed and compared, it is time to conclude the planning phase and move on to the actual procurement process. If it has not already been done, be sure that the decision points leading to the choice of vehicle, both during the vehicle considerations/availability analysis and CBA, have been carefully documented. This information will be needed in order to have vehicle procurement funding approved

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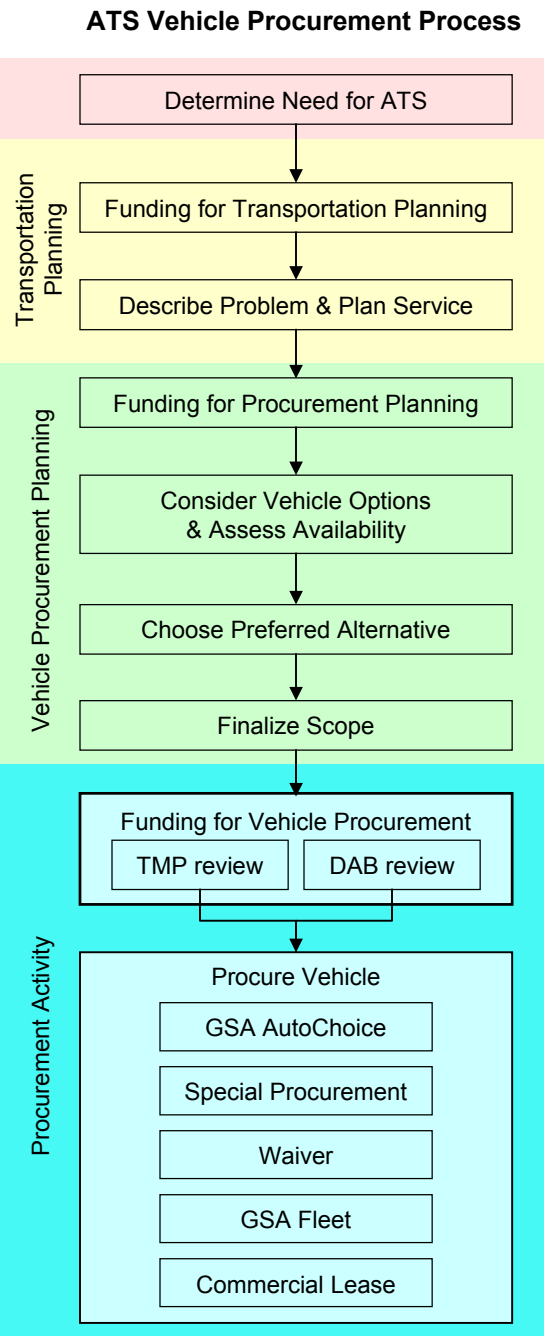

Procurement Activity - Overview

Once procurement planning is complete (including choosing a vehicle, determining future management and operational arrangements, and identifying the procurement method), it is time to procure the vehicle. This section covers the elements of implementing the procurement:

Funding for Vehicle Procurement

Procure Vehicle

And provides additional information for procuring vehicles using the various procurement options:

Purchase

- GSA AutoChoice
- Special Procurement
- Waiver

Lease

- GSA Fleet
- Commercial Lease

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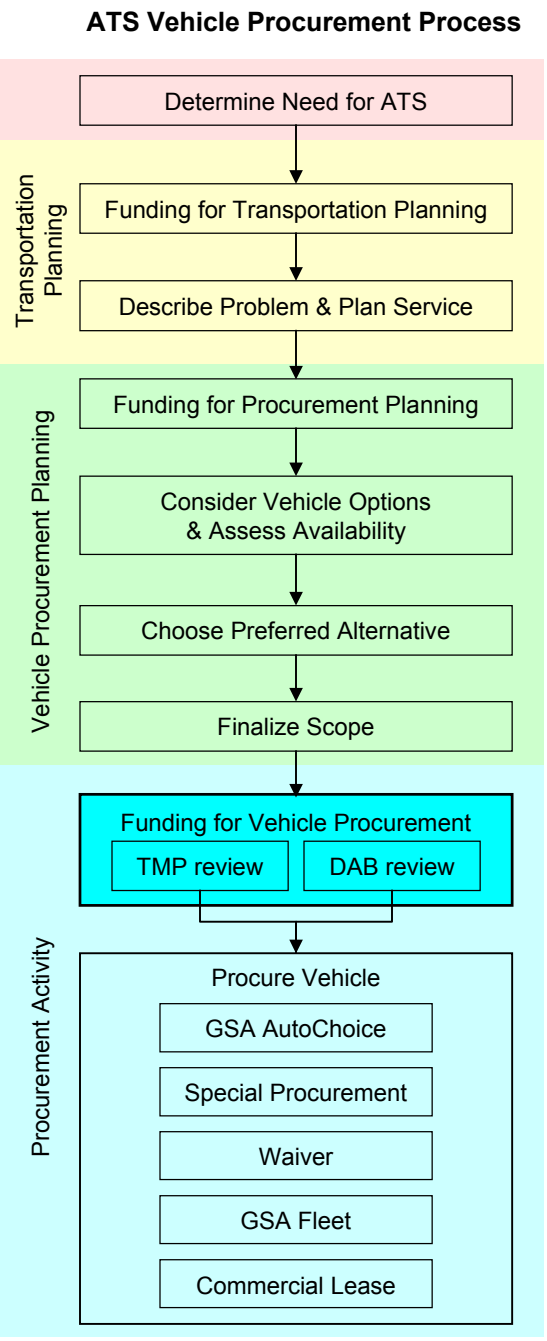

Obtain Funding for Vehicle Procurement

Once the scope has been finalized and the vehicles selected, it is possible to accurately estimate the costs of purchasing and operating the fleet. The next step is to submit a request for funding (PMIS) for vehicle acquisition.

The NPS Transportation Management Program (TMP) office may conduct a TMP Transportation Assistance Group (TAG) review to ensure that appropriate procurement planning has been completed. If the vehicle is a custom vehicle procurement and costs more than $500,000, a review by the Development Advisory Board (DAB) is also required. If the vehicle is procured off the GSA schedule through AutoChoice, the vehicle procurement does not have to go to DAB.

DAB Review (Development Advisory Board, WASO)

The Development Advisory Board is made up of executive-level NPS employees and external advisors who review design and construction projects to ensure cost-effectiveness and the responsible use of NPS construction funds. It serves as the primary review board for all projects of $500,000 or more.

Information and forms regarding the DAB review process are located on the NPS internal website.[1]

- Funding proposals must be submitted a minimum of five weeks prior to the next DAB review meeting
- Call: (303) 969-2637 with any further questions

1. http://construction.den.nps.gov/review.cfm

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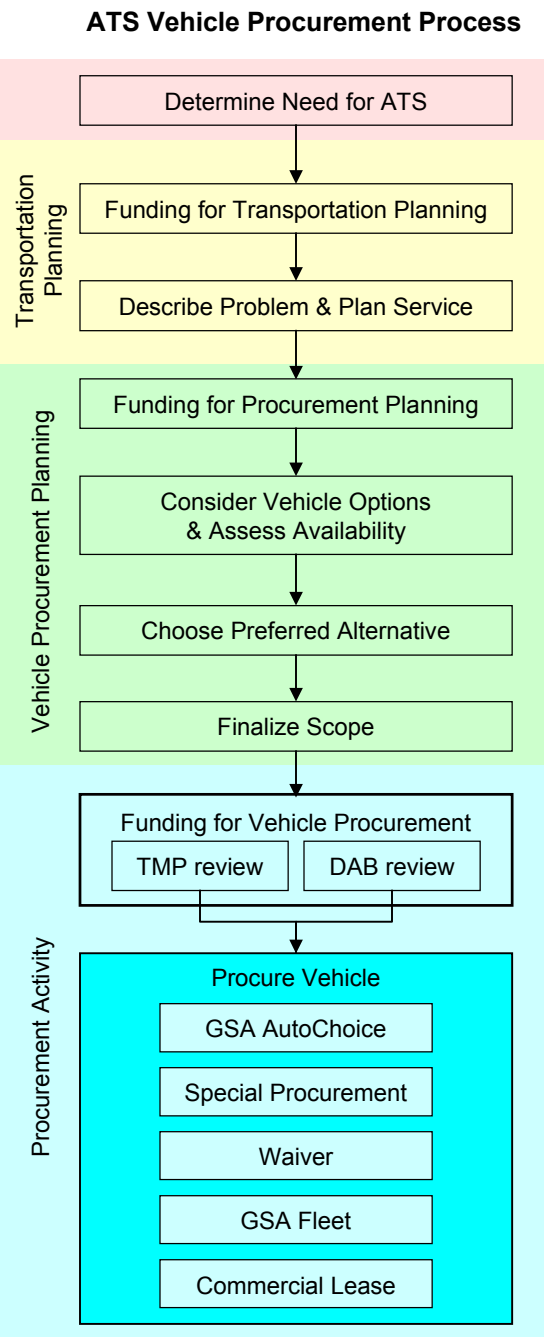

Procure Vehicle

Once funding has been approved, the actual procurement process can begin. The links below provide procedural information on procuring vehicles either through purchase or lease. The park should have identified which method will be used during procurement planning. Quick Introduction to Procurement Options provides an overview of each of the options.

Purchase

Vehicles can be purchased via the following options:

- GSA AutoChoice
- Special Procurement
- Waiver

Lease

Vehicles can be leased via the following options:

- GSA Fleet
- Commercial Lease

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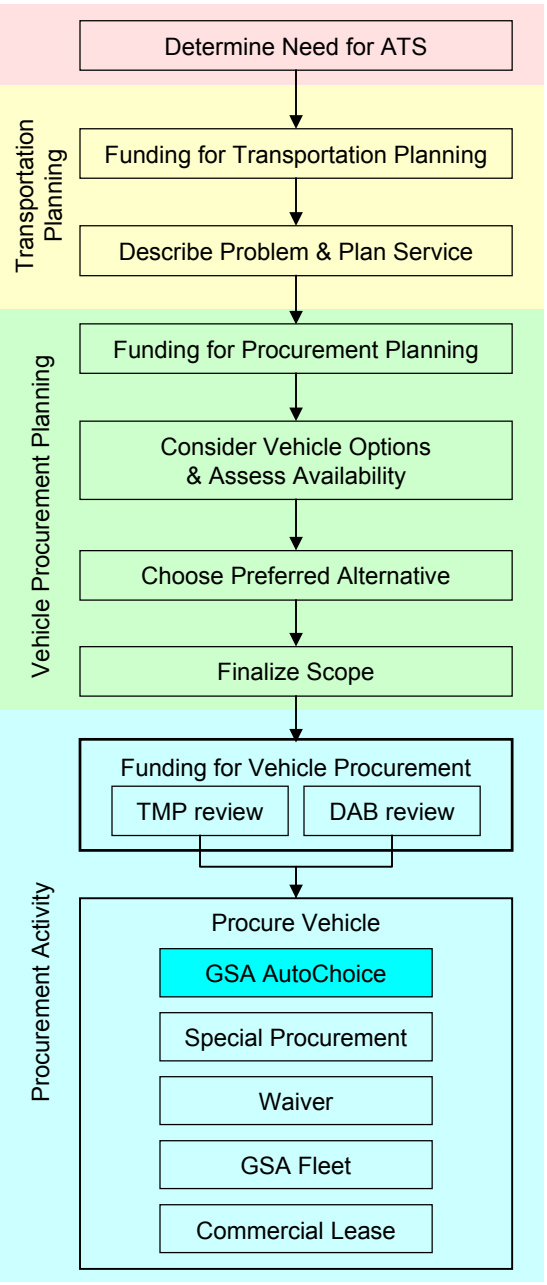

GSA AutoChoice

Purchasing a vehicle through AutoChoice is the most straightforward and commonly used option for procurement. Any staff member of the park can register to access the AutoChoice website, http://autochoice.gsa.gov, to determine vehicle availability and initiate a purchase. For NPS staff, when registering for AutoChoice, the Agency Code is 14 and Bureau Code is 17.

When the park is ready to initiate a purchase it should:

1. If not already done, the park should contact the GSA Automotive Customer Care Cars Line (at (703) 605.2277) or vehicle.buying@gsa.gov to alert them of the upcoming procurement and ensure that the vehicle options are correctly documented within AutoChoice.
2. The vehicle and desired options should then be selected within AutoChoice and added to the "Garage", where the order will be stored until finalized by the NPS authorized purchaser.
3. Once the vehicle is selected, staff should provide the vehicle specifications to the park Contracting Officer, who will complete the necessary documentation and forward this information through the Regional Property Manager to the WASO Property office.
4. The Washington Property Office is responsible for releasing the funds to GSA to purchase the vehicle. Cheryl Vaughn is the authorized purchaser for the NPS; she can be reached at Cheryl_Vaughn@nps.gov or at (202) 354-1957.

After the purchase has been authorized, the order is checked to confirm that the selected options are available within the system. GSA then transmits the order to the contractor. A 1% GSA purchase fee will be added to the order (this helps fund GSA). Since buses and similar vehicles are generally not manufactured until an order has been placed, there is typically a 180-270 day delay between the time a vehicle is ordered and when it is delivered to the park.

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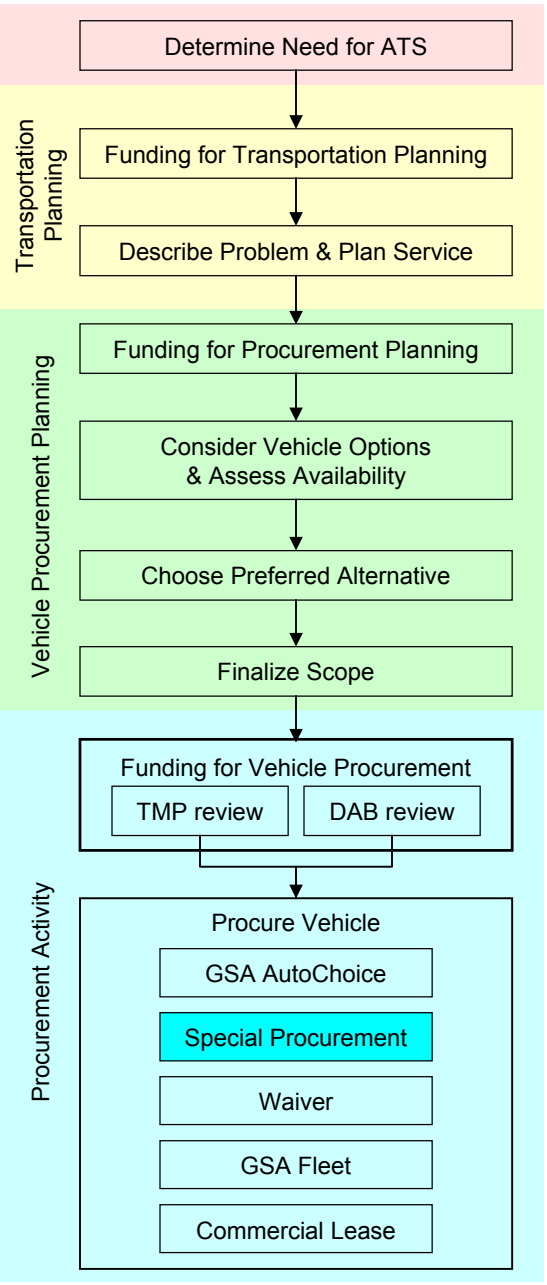

Special Procurement

Initial inquiries into special procurements should be made as early as possible during vehicle procurement planning as a part of assessing vehicle availability. When it has been determined that the vehicle can not be procured through AutoChoice, the park should contact GSA Automotive's Engineering and Commodity Management Division (FFAE). The FFAE Director, Russ Miller, can be reached at (703) 605-2965; otherwise contact GSA Automotive Customer Care Cars Line at (703) 605-2277 or vehicle.buying@gsa.gov.

While GSA does not provide general technical assistance, it is willing to assist agencies who are committed to purchasing a non-standard vehicle through GSA. In these situations, GSA requires the agency to "obligate" the funding to them, before GSA will begin writing the specification. Obligating funding to GSA before purchase allows agencies to spend the money during the current fiscal year, even though the vehicle may not be purchased or delivered until the following year.

The park should include their budget estimate of the vehicle costs when submitting the motor vehicle requisition, GSA Form 1781. GSA will review the motor vehicle request form and discuss other related project issues with the park's assigned project manager. A project plan will then be drafted by GSA identifying critical project milestones, target dates, confirmation of the budget estimates, management tools, status reports, GSA surcharges and GSA's procurement methods. The special procurement project will officially commence when the project plan is agreed upon and signed by both GSA and NPS project managers.

GSA has a surcharge for providing the engineering, contract administration, vehicle inspection and project management services, equal to 5% of the value of the first vehicle. For multiple vehicles purchases, GSA requests submitting a separate requisition for the remaining balance of vehicles as only the standard 1% GSA surcharge applies to each of those vehicles. These fees should be considered for budgeting purposes.

Actual cost and budget variations can not be determined until GSA reviews all of the solicited offers. Typically, GSA customers are expected to cover the full cost of the vehicle(s) once the best and final offers are submitted and firm costs have been established. However, there are several effective methods to resolve potential budget issues prior to contract award since GSA vehicle contracts are fully negotiable.

Again, a special procurement requires an agency to know what they want. A list of specifications or vehicle constraints, including the duty cycle, need for special features or vehicle dimensions is needed before GSA can help the park develop procurement specifications. GSA can help determine the appropriate engines size and power train based on data collected when considering vehicle options.

It is important to consult GSA about the timeframe for the vehicle purchase when entering into a special procurement agreement. GSA Automotive has made efforts to improve their handling of special procurements and have developed guidance for doing so. A Project Plan will be developed to ensure that the park understands and agrees to the special procurement process and requirements. More information can be obtained by contacting GSA Automotive's Engineering and Commodity Management Division at (703) 605-2965, GSA Automotive Customer Care Cars Line at (703) 605-2277, or vehicle.buying@gsa.gov.

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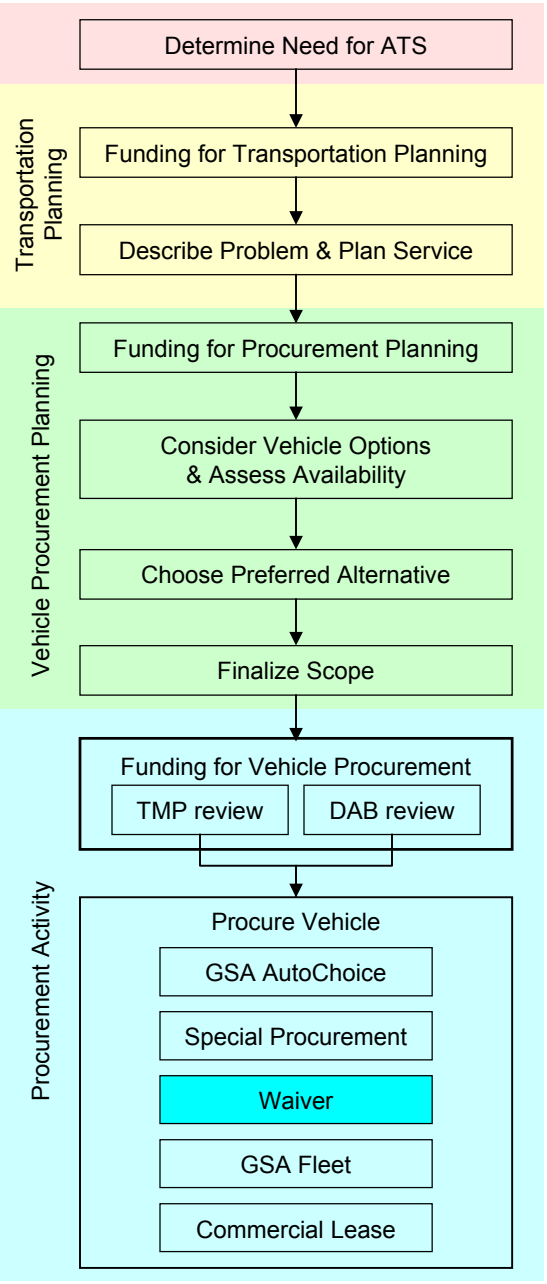

Waiver

To receive a waiver for a purchase outside GSA, the park must submit a request for waiver justifying the procurement to the Washington Property Office for submission to GSA. The park must include a copy of the technical requirements, performance criteria or special needs in the submission to GSA. GSA is not a mandatory source for, nor does it purchase tactical vehicles, experimental vehicles, prototype vehicles, used vehicles or vehicles equipped with after-market converted engines for use with alternative fuels. GSA waivers are not required for parks to purchase these exempt vehicles but if these options are being considered, parks should check with the NPS Washington Property Office . For information on submitting this request, including contact information and required information, please see instructions from Personal Property Management Handbook.[1]

Once GSA has granted a waiver, the park becomes responsible for purchasing the vehicles and must consider all federal requirements. Appendix A identifies key purchasing requirements that must be followed. APTA and FTA have developed guidance on conducting bus procurements. Please consult the following for additional guidance:

APTA bus procurement guidance[2]

FTA bus procurement guidance[3]

1. NPS Personal Property Management Handbook #44 Section 11 http://www.nps.gov/policy/DOrders/DIR44.ZIP
2. http://www.apta.com/ebiz/procurement
3. FTA Best Practices Procurement Manual, http://www.fta.dot.gov/9386_ENG_HTML.htm

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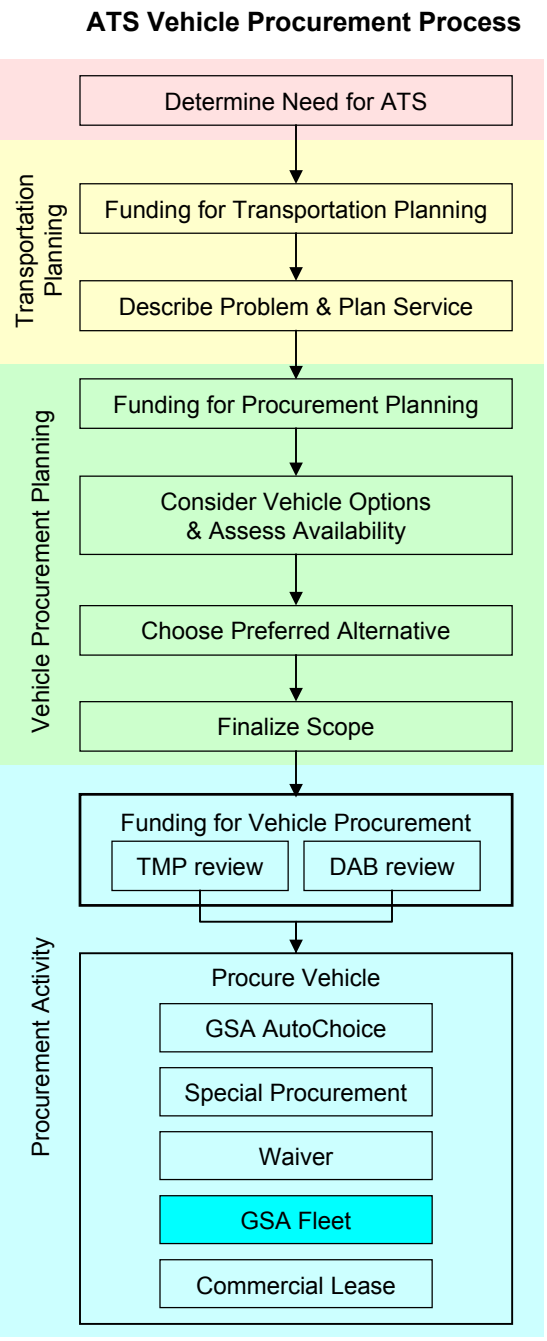

GSA Fleet

National parks can lease vehicles through GSA Fleet.[1] GSA Fleet typically provides all of a federal agency's leased vehicles, and maintains the fleet on an ongoing basis. This can greatly simplify vehicle maintenance and repair issues for a park. A park may have difficulty in obtaining new vehicles to create or expand its transportation service, as GSA Fleet's focus is on maintaining its existing fleet and replacing vehicles only as needed; in some circumstances, GSA Fleet may not have sufficient vehicles to provide a park with the vehicles it needs. If a park is interested in adding leased vehicles to its fleet, it should contact the local Regional Fleet Management Office[2] of GSA Fleet.

1. http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8211&channelPage=/ep/channel/gsaOverview.jsp&channelId=-13036
2. http://www.gsa.gov/Portal/gsa/ep/contentView.do?programId=8735&channelId=-13036&ooid=10343&contentId=8364&pageTypeId=8211&contentType=GSA_BASIC&programPage=%2Fep%2Fprogram%2FgsaBasic.jsp&P=FFF1

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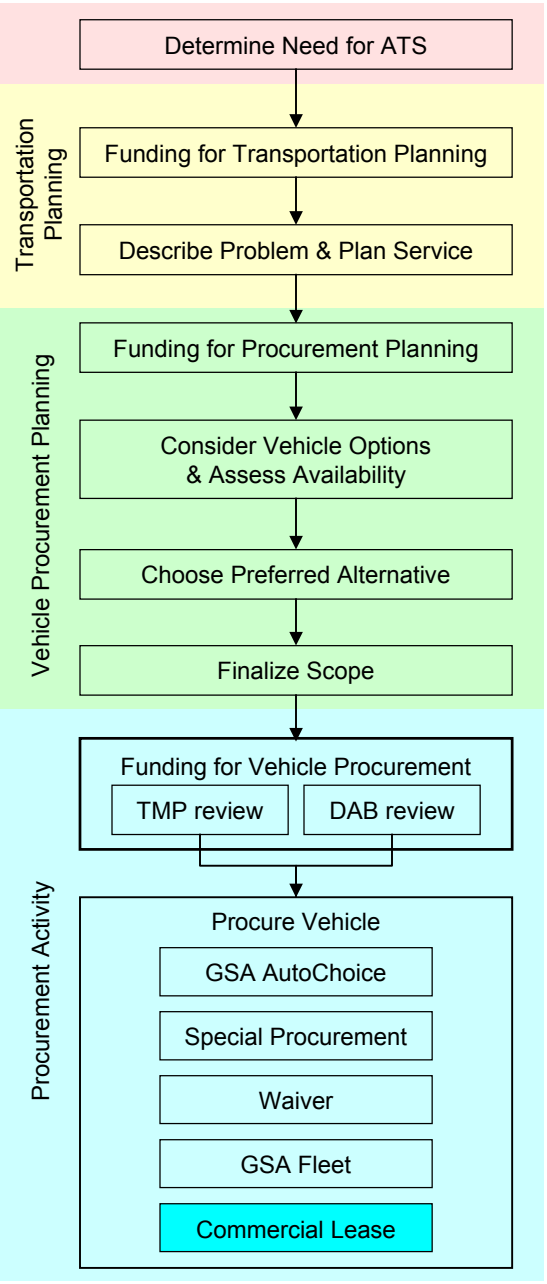

Commercial Lease

Parks can also obtain vehicles for transportation services by leasing them as a part of a service-providing concession. There are many commercial transportation service providers who own and operate their own fleets of vehicles, and would use these vehicles to provide service within the park. This option may make the most sense for park tours that can be operated using fairly standard vehicles and that will run at only certain times of the year (making park-owned vehicles less cost-effective). It should be noted that TMP funds may not be used for service operations. If a park chooses to lease a vehicle commercially, it may not be eligible for TMP funds.

In some instances, it may be possible to commercially lease vehicles separate from a service-operation concession so that a park could lease the vehicle and operate the service itself. In most instances however, concessionaire's insurance requirements will prohibit this option.

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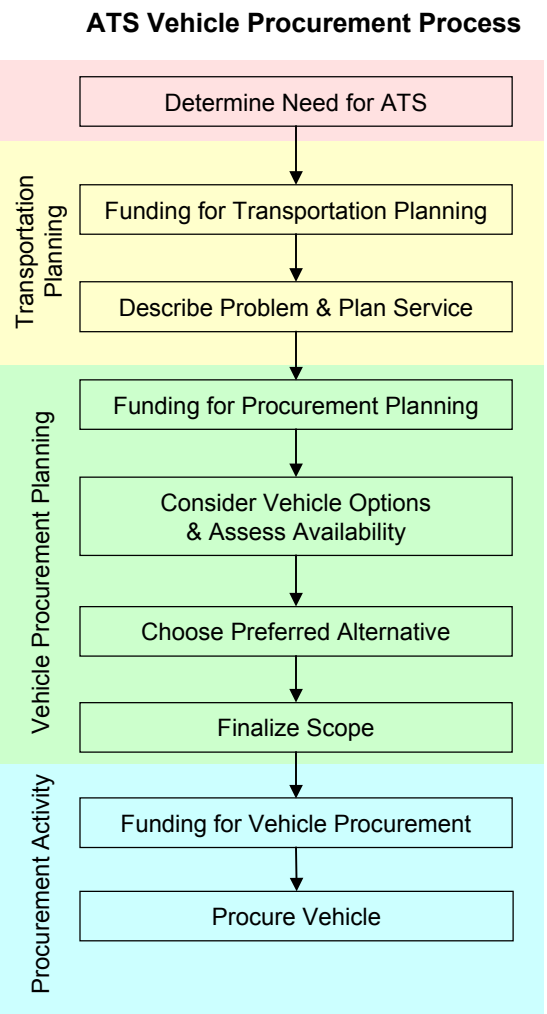


Appendix A – Purchasing Requirements

NPS Requirements

NPS policies, guidance and manuals can be found at the web site: http://www.nps.gov/refdesk/policies.html. All NPS vehicles must comply with Section 504 of the Rehabilitation Act of 1973, the Federal Energy Policy Act (EPACT) of 1992, Federal "Buy America" requirements, Federal Environmental Protection Agency (EPA) regulations (as well as state environmental requirements), and the Federal Motor Vehicle Safety Standards (FMVSS).

Buy America

The Federal Buy America Act (BAA) provisions in the Federal Acquisition Regulation (FAR; Part 25) require federal agencies to procure products manufactured in the United States with domestically produced components accounting for more than 50 percent of the component costs. Vehicles acquired through the General Services Administration (GSA) are subject to the BAA under the FAR.

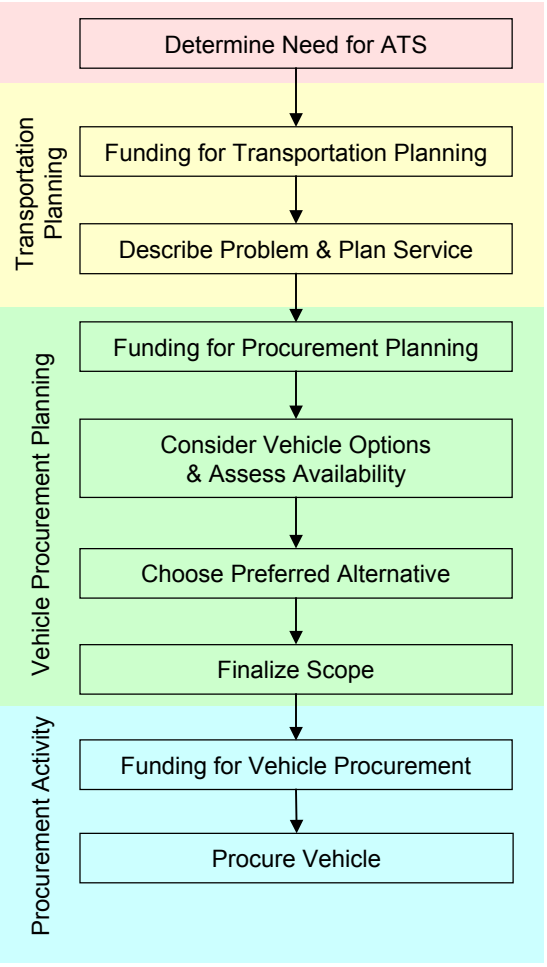
For vehicles acquired in partnership with the Federal Transit Administration (FTA) or public transit agencies using FTA funds, additional regulations (49 CFR 661) apply (http://www.access.gpo.gov/nara/cfr/waisidx_00/49cfr661_00.html). Generally, the FTA requirements do not apply to procurement of buses and other rolling stock if the cost of components (excluding labor costs involved in final assembly) produced in the United States is more than 60 percent of the cost of all components and final assembly that takes place in the United States. If working with transportation agency partners under the FTA regulations, a plan must be developed to conduct both a pre-award review and a post-delivery material audit of vehicles procured to ensure compliance with "Buy America" regulatory provisions. A series of "Dear Colleague" letters from the FTA Administrator provide guidance to public transportation agencies using FTA Capital Grant funds (http://www.access.gpo.gov/nara/cfr/waisidx_00/49cfr661_00.html).

Americans with Disabilities Act (ADA)

A requirement that warrants particular consideration in transportation planning is accessibility for persons with disabilities. Section 504 of the Rehabilitation Act of 1973 primarily governs disability rights requirements for the NPS. In certain cases the Architectural Barriers Act of 1968 and the Americans with Disabilities Act of 1990 (ADA) may also be applicable. Park transportation systems must have a "*sufficient percentage of fully accessible vehicles or watercraft to provide effective services to persons with disabilities.*" Existing transportation services available to the general public must be made accessible "*to the greatest extent reasonable,*" although separate, specialized services for the disabled may be provided to meet accessibility requirements if the need *"is clearly demonstrated."* All new transportation services and replacement vehicles must be fully accessible to persons with disabilities. Public transportation vehicles must meet minimum standards and requirements for mobility, accessibility, and information conveyance for people with mobility, auditory, or visual impairment. When specifying vehicles, the NPS must incorporate these requirements in its procurements (refer to section 2.1.1). There are several technologies that address these needs, including wheelchair lifts and ramps, in-vehicle signs, and in-vehicle enunciators. The NPS has published a comprehensive guide for Accessible Transportation Systems, which can be referenced at: http://inside.nps.gov/programs/functioncustommenu.cfm?menuid=1594&div=41&prog=151&fun=454

Alternative Transportation System Vehicle Procurement Guide

ATS Vehicle Procurement Process



Appendix B – Assistance Available to Parks on Alternative Fuels for Alternative Transportation Systems

What type of assistance is available?

Through a new trial program funded through a Federal Transit Administration (FTA) grant to the Advanced Transportation Technology Institute (ATTI), assistance is available to individual parks considering or currently using alternative fuels for their existing or planned alternative transportation systems (ATS).

What types of activities are eligible?

Eligible activities are limited to those that address issues with alternative fuels for existing or planned park alternative transportation systems. Some of the services available to you through ATTI include:

- Independent review of proposed alternative fuel programs/recommendations;
- Analysis of clean fuel vehicle options for particular ATS;
- Analysis of park infrastructure needs for various alternative fuel vehicle fleets;
- On-site technical assistance to address issues with existing alternative fuel ATS vehicle and supporting infrastructure;
- Information and training on alternative fuel vehicle maintenance practices;
- Information and assistance on data collection and analysis of ATS;
- Development of outreach materials on alternative fuels for various audiences; and
- Assistance in developing coalitions to support alternative fuel vehicle deployments.
- Funds for this initial trial program are limited, so not all requests for assistance can be accommodated.

What is ATTI?

ATTI is a non-profit organization charged with supporting the use of clean fuel vehicles throughout the United States that has expertise in all types of alternative fuels technologies and their applications in transportation including electric, hybrid-electric, natural gas, bio-fuel, and propane powered vehicles.

How do we access this assistance?

You may contact John Powell or Ken Cox directly at ATTI by calling (423) 622-3884.

They will ask for some preliminary information on the type of assistance you are requesting. They will consult briefly with FTA and the National Park Service (NPS) as necessary to determine whether the requested assistance is eligible. If the assistance you are requesting is eligible and falls within their capabilities, ATTI will contact you to develop an appropriate project scope. Assistance is provided on a first-come first-serve basis, as funds are available. In cases where ATTI is not the best suited to provide assistance, NPS and FTA will work to find other potential resources that may help you in addressing your needs.

Is there any cost to use the service?

Funding for the service is provided through an FTA grant to ATTI, so no park funds are required to participate in the program. In order to provide assistance to the maximum number of parks as possible, there are limits on the amount of assistance we can provide to any one park.

Comments, questions or suggestions?

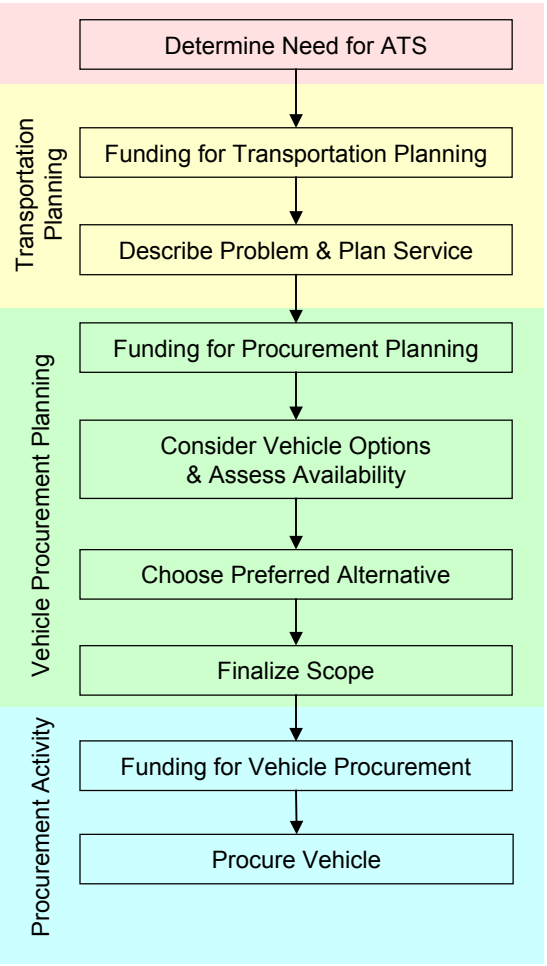
Your feedback is important and will determine whether this trial program is continued or

revised in the future. Please contact Mr. Lou Delorme, Team Leader, Transportation Planning/Transportation Management Program, Park Facility Management Division, at

(202) 513-7028 if you have questions or comments on the program, or ideas to make it more effective.

Alternative Transportation System Vehicle Procurement Guide

ATS Vehicle Procurement Process



Appendix C – Intelligent Transportation Systems (ITS)

Intelligent transportation systems (ITS) use a variety of technologies to help manage transportation and traffic. Sample technology includes traffic detectors, weather sensors, computer databases, and toll tags or smart cards. Many states already use ITS to reduce traffic congestion and improve safety on state and local highways. For example, Maine, New Jersey, and other states are using ITS to electronically collect fees, fares, and tolls reducing waiting times at collection plazas. ITS also is used to provide drivers with navigation information, road and weather conditions, traffic congestion updates, and a wide variety of other real-time information.

Within NPS, ITS and alternative transportation systems can be used to improve the visitor experience, manage parking, reduce traffic congestion and protect natural and cultural resources, and many NPS units are beginning to use ITS. Strategies have been implemented to showcase an ITS Field Operational Test in Acadia National Park by the NPS in cooperation with FHWA and the Maine DOT. The ITS test project in Acadia National Park centers around a DOT Advanced Traveler Information System designed to give travelers real-time information on parking availability, bus arrival and departure times, weather information, and other pertinent visitor-related information. The objectives are to enhance the quality of the park experience for those visiting Acadia National Park and to increase DOT's capability for deploying ITS in rural areas.

More information about the Acadia test project can be found at http://www.its.dot.gov/itsweb/welcome.htm; more information on ITS can be found in the TCRP reports listed in Section 1.2 and at http://www.nps.gov/transportation/alt/vehicletech.htm.